

OLD!
16-PAGE PLAYSTATION SPECIAL REPORT
THE ESSENTIAL GUIDE TO CLASSIC GAMES
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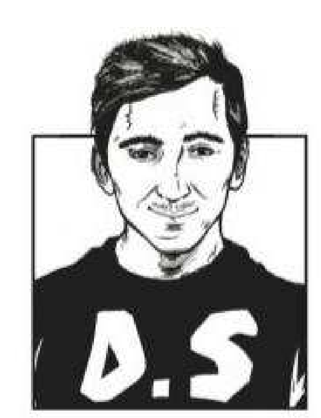
THE RETROBATES

WHAT'S YOUR FAVOURITE PLAYSTATION GAME?



DARRAN JONES

Castlevania: Symphony Of The Night. I have lost count of the times I have completed it over the years. I'm also rather partial to *Strider 2* (it includes *Strider*).
Expertise:
Juggling a gorgeous wife, two beautiful girls and an award-winning magazine
Currently playing:
Dark Souls Remastered
Favourite game of all time:
Strider



DREW SLEEP

Well, it's my favourite game of all time: *Final Fantasy VIII*! Even today, playing it gives me butterflies.
Expertise:
Breaking the spindle on my original PlayStation
Currently playing:
Red Dead Redemption II
Favourite game of all time:
Final Fantasy VIII

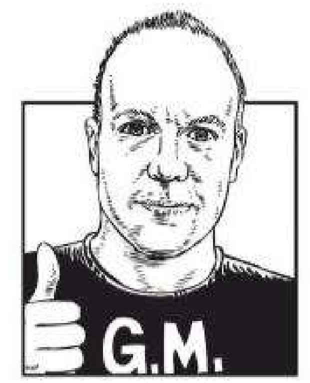


NICK THORPE

Just one? That's tough. *WipEout 3 :Special Edition* brings together the best bits of the original three games, and I love them all, so I'll go with that.
Expertise:
Owning five Master Systems (I sold two)
Currently playing:
SNK 40th Anniversary Collection
Favourite game of all time:
Sonic The Hedgehog

SAM RIBBITS

I'm a big fan of a lot of the Playstation's games, but you know by now that my favourite is *Croc*.
Expertise:
Polygons
Currently playing:
Undertale
Favourite game of all time:
Croc: Legend Of The Gobbos



GRAEME MASON

Tough choice but I'm going to go for *Tenchu*. Atmospheric sneaky slaughter at its best!
Expertise:
Adjusting the tape azimuth with a screwdriver
Currently playing:
Eternal Darkness: Sanity's Requiem
Favourite game of all time:
Resident Evil 4



JASON KELK

I enjoyed spending huge amounts of time playing *R-Type Delta*... but not very well.
Expertise:
Jason Kelk
Currently playing:
Warhawk
Favourite game of all time:
Io



DAVID CROOKES

Ridge Racer. I played it for hours and hours and it blew me away when I first got my PlayStation
Expertise:
Amstrad, Lynx, adventures, Dizzy and PlayStation (but is it retro? Debate!)
Currently playing:
Fortnite
Favourite game of all time:
Broken Sword




PAUL DRURY

Can't decide between *Vib Ribbon* and *Bishi Bashi Special* - both brilliantly inspired pieces of Japanese lunacy.
Expertise:
Vampire slaying
Currently playing:
Red Dead Redemption II
Favourite game of all time:
Sheep in Space



ANDREW FISHER

Tony Hawk's Pro Skater, I spent so many hours playing it
Expertise:
Over 35 years of gaming, from Commodore 64 to Wii U
Currently playing:
Dicey Dungeons Alpha
Favourite game of all time:
Paradroid





Being a staunch supporter of the Mega Drive and the Saturn, it took me a little while to warm to Sony's first console and I didn't pick one up until 1997, two years after the system's UK launch. Our relationship didn't have the greatest of starts, possibly due to the fact that the bundle I purchased from Currys included *Fade To Black*, *Porsche Challenge*, *Rayman* and *Croc: Legend Of The Gobbos* – all releases which didn't live up to the hype promised by my friends and the gaming press. The only game I really loved on my PlayStation was *Castlevania: Symphony Of The Night* (in fact, it was one of the main reasons I eventually decided to buy Sony's console). If I'm honest, I just wasn't in a rush to embrace 3D gaming.

Eventually, though, my thoughts began to change, and while I aligned myself with the N64 for a good part of that exciting generation I eventually picked up more and more PlayStation games, after being wowed by the likes of *Tekken 3*, *Resident Evil 2* and *Gran Turismo*. The sheer diversity of Sony's console was bonkers and it's easy to see why so many of us did fall in love with Sony's 32-bit powerhouse. It's equally easy to see why there's so much excitement for the PlayStation Classic at the moment (you can read our early hands-on on page 28). With that in mind our 16-page PlayStation special report examines both the tech powering Sony's console, as well as *Spyro The Dragon*.

Enjoy the magazine!



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>> Load 188 Breathing new life into classic games

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KINGS OF THE CASTLE

Play Expo returns to Blackpool for a one-off retro special



CONTENTS

When Replay Events announced that this year's Play Expo Manchester had been cancelled, there was much disappointment. But these frowns soon turned upside down when it was announced that a second event at the Norbreck Castle in Blackpool would take place instead. Not only that, though: this event would be very much a retro-focused affair with the promise of more arcade machines and pinball than ever seen at a UK event before.

The Replay team certainly didn't let us down; as soon as you walked into the main hall you didn't know where to look. The room was dominated by a huge arcade, and there was also a superb selection of home systems to play on, too, which included some incredibly rare machines, such as the FM Towns Marty, Panasonic Q, Pioneer LaserActive and Sharp X68000. On the stage there were various competitions and tournaments being run all day, with some fantastic prizes, alongside the ever-popular cosplay parade.



» There was no shortage of classic systems to play on, most of which used authentic CRT TVs.

As well as all this, a historic ballroom played home to a host of varied stalls, selling everything from hand-etched coasters to bartop arcade machines. A large part of this room had also been granted to indie game developers, including retro gaming legend Jeff Minter, who was showing off the new *Gridrunner VR*, and many of the Spectrum Next crew, including Jim Bagley who was showing off the final box design as well as prototype of a Spectrum Next handheld.

"Apart from the fact this is very much my target audience, I always enjoy Blackpool because I get to play some classic arcade games in their true form," says Jim Bagley when asked about what he likes about Play Blackpool. "Stuff like the *Star Wars* arcade game, *Power Drift* and *Battlezone* can't be emulated properly because of the controller and the type of display they use. I already set the high score on sit-down *Star Wars* and I'll be going to back to see if anyone's beaten it later."



» Arcade games and pinball machines were set to free play, enabling everyone to rock up and have a go.

Going back to the Spectrum Next team, there was a great selection of games to play on the new retro-inspired home computer including the *Manic Miner*-inspired *Monkey McGee*. The man responsible for the music on this game is Paul 'Sidman' Hesso, who is very well known in the Commodore 64 community. "The best thing about Blackpool for me is meeting all the fellow retro gaming fans and developers," he says. "It's all about the community and their feedback can only help us make our games even better!"



» The ballroom hosted a large amount of different traders, and the prices were also quite reasonable.

» The multiplayer area featured great games, such as *Mario Kart*, *Bomberman* and *BattleSphere*.

"Well, we already knew there was a gap in the calendar and really wanted to keep our audience satisfied," Replay Events' managing director Andy Brown says on this year's retro gaming-focused event. "A lot of people had been coming up to me at last year's events telling me that they preferred it when we were more retro-orientated, so I thought, 'You know what? Let's do it!'" But Andy does have a few reservations about returning to his roots. "Our original shows were just retro but as they evolved to suit a wider audience that changed," he explains. "We were worried that after seven years would it still work and would we be able to stand out against all the other retro-based events going on, our own included. I am very pleased to say though that my instincts were right, as this hasn't just been a success, it's been the most popular show we have ever done in Blackpool!"

With that feeling in mind, though, does Andy and the team have any plans to do it again? "Hmm, the honest answer is that I just don't know.


» Asobi.tech's Rarity Zone features a wide range of obscure and hard-to-find system to play on.

What would make this event difficult to do is that most of the exhibitors, especially the pinball guys, are volunteers. So it's unfair to ask them to do several events a year, as it would be really difficult for some of them. I think the best solution is we keep Play Blackpool as a more retro-orientated show, as that seems to be what people want and it gives it a real point of difference from Play Manchester."

Andy speaks a lot about how important feedback is to Replay, and we got a feeling that the community is very important to him. Many people like Play Blackpool because, although it's a


» Retro Man Cave (left) and former Commodore UK marketing manager David Pleasance (right).

large event, it still seems to keep that close community feel. "I think there are a few reasons, firstly because it's very relaxed and enjoyable for all of us," says Andy, speaking about the atmosphere of the event. "All the crew know the venue like the back of their hand, so it seems to very much run itself and that in turn allows us to enjoy ourselves. Even I got to play on some machines and have some fun yesterday, and that almost never happens!

"People also seem to love the Norbreck for some reason," Andy continues. "I'm not really sure why but it very much has its own special charm – I think the Norbreck itself is retro! It's always great to hear how much people love Play Blackpool though, so maybe we should do another one? You've got this thought in my head now!"

Thanks to @escragger on Twitter for the photos.

"All the crew know the venue like the back of their hand, so it seems to very much run itself"
Andy Brown

ATTENDEE COMMENTS

Top top weekend, well done to all the organisers! Was great to see a few old faces and a few folk I'd never got round to seeing before. I think I ended up playing far more games than usual too. Definitely the best event in years.
The_Hawk

For me the most recent Play Expo Blackpool was the perfect mix of arcade machines, pinball tables and indie developers, along with just the right amount of traders. Plus, I entered my first ever tournament event – highest score on *Dragons Lair* – and won!
@80sNostalgia

There were so many games I just couldn't decide what to play on next! And there's just so much amazing stuff here that I couldn't even tell you my favourite moment, I just loved all of it!"
Callum McDougall

For me it's always about catching up with friends from the gaming community and getting to meet new ones with a bit of gaming in-between. @SlopesGameRoom DJ-ing the afterparty was my favourite moment, huge tunes and perfect BGM whilst you're chatting to everyone!
@KingMonkey25

It was a fantastic weekend full of retro goodness, many laughs with a soothing relaxed vibe to it all. My personal highlights included the madhouse that was the Digitiser panel, the impressive array of pinball machines and Asobi.tech's selection of gaming oddities. Loved it!
@OldDeanLeopard

Reinventing Retro

ARMIN HIERSTETTER DISCUSSES HIS NEW RETRO PROJECT WITH US

Nowadays, when people are looking at boosting their retro collections, they typically head to the likes of eBay or use various groups on social media. Armin Hierstetter is hoping to disrupt this with the introduction of retroplace, a new website that not only acts as a portal to buy and sell retro games, but also allows you to track your own personal collection. "The story of [retroplace] begins with a simple observation. There is no international marketplace dedicated to retro games," begins Armin. "You would think there is, but there is none. Now, of course there are eBay, Amazon and the likes, but we felt that those are flawed in many ways, starting with very high sales commissions that drives prices up. Also, the process of buying and selling is far from ideal, but the major issue with the big guns is [that] they are not focused on what retro gamers want, apart from selling and buying games.

» Armin and Christian are well-versed in the selling of videogames, as the success of NipponDreams proves.

So, two years ago, we decided to take a much more retro community focused approach that we call retroplace."

As Armin notes, there are plenty of places you can keep track of your collection, but he's confident that retroplace is a good alternative. "It all starts with a very strong foundation, a database of currently 110,000-plus retro games." But why is this impressive number so important and how will it attract gamers? "All other features build on it: managing your collection, wishlist, buying and selling games etc," he continues. "Whatever you want to do with a game – adding it to your collection, selling it, buying it – the database makes it incredibly easy because it does most of the donkey work for you."

Data entry is incredibly important for any project like this and retroplace has some nice tricks that Armin hopes will separate it from similar sites. "RetroScan is a barcode scanner that allows you to scan the EAN code of a game," Armin explains. "This is extremely helpful when adding a lot of games to your collection. It also comes in handy when you want to quickly check whether a game is in your collection or when you want to sell a specific game. It works wonderfully on your desktop and on your phone."

Armin is also confident that the fact retroplace has a built-in auction site will help boost its success, but it's important to note that various other retro-themed auction sites have failed



» Christian Corre came up with the idea of retroplace and currently runs NipponDreams in Munich.

» Armin is retroplace's programmer and has worked in business for over ten years.

to impact on eBay's success, so we were keen to know how retroplace were going to break this stranglehold. "It was not a lack of passion that has led to failures in the past. If – at all – it was the lack of relevant advantages compared to eBay and Amazon," suggests Armin. "It is very hard to add a new platform on the user's radar. Unless you offer a far greater experience than existing websites, users simply don't see a reason as to why they should even bother.

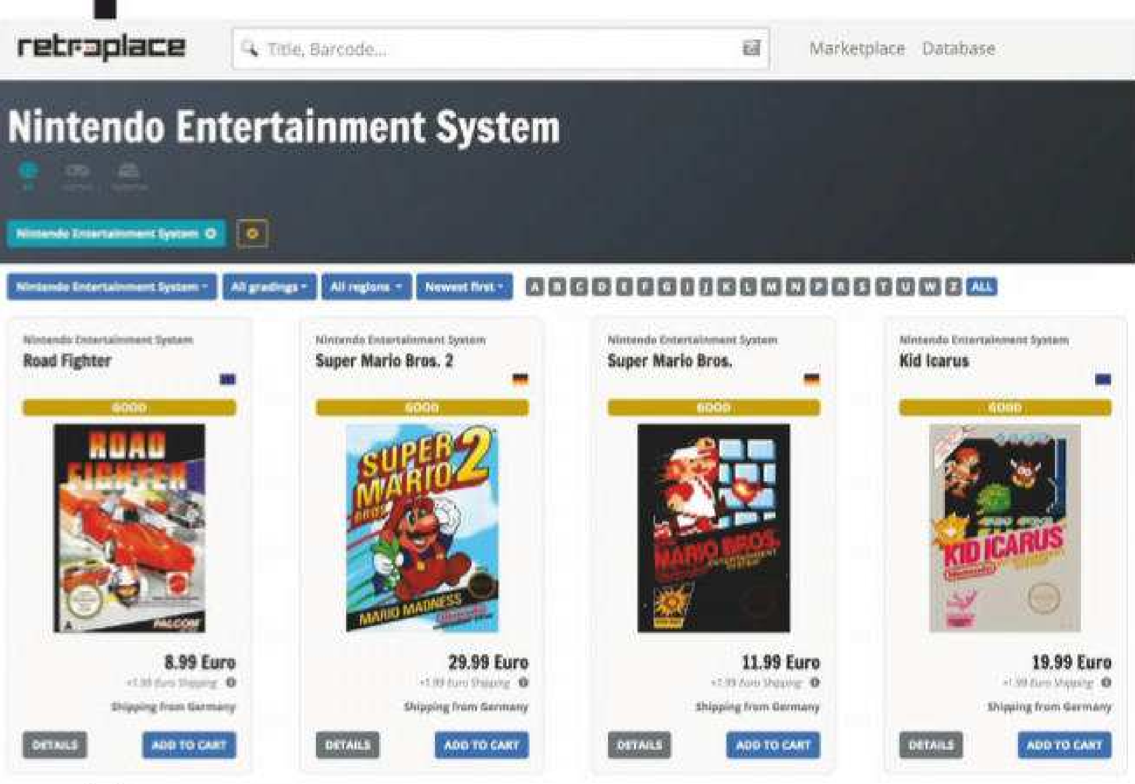
"Even if you get that right: trust is even more important and harder to earn at the same time," Armin continues. "If you cannot build trust with your user base, you have a problem. Experience in running a business also is needed in order to even stand a chance to be successful: I've been in ebusiness for more than a decade, while Christian Corre is the owner of one of the most prestigious independent game shops in Germany.

> **"It is very hard to add a new platform on the user's radar"**
> Armin Hierstetter

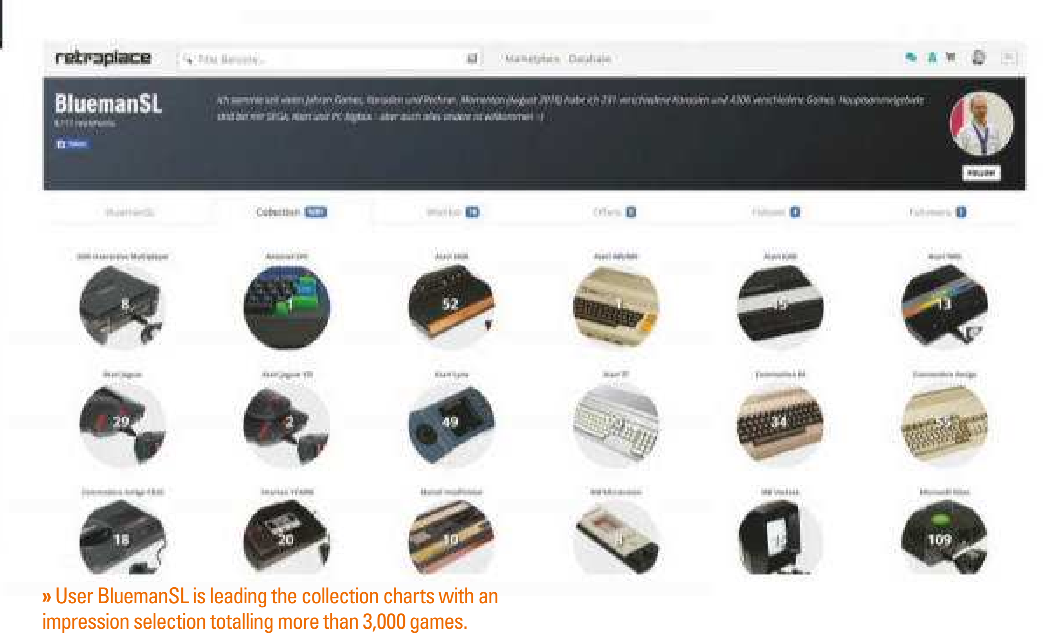
We combine a total of close to 30 years of entrepreneur experience."

It's going to be interesting to see it retroplace can become a destination for retro gamers, but it sounds like Armin and the rest of his team are certainly up for the challenge.

Make your way to retroplace.com/en for more information



» The market section of retroplace allows you to filter by system, region and condition.



» User BluemanSL is leading the collection charts with an impression selection totalling more than 3,000 games.

Galaga Mini Arcade

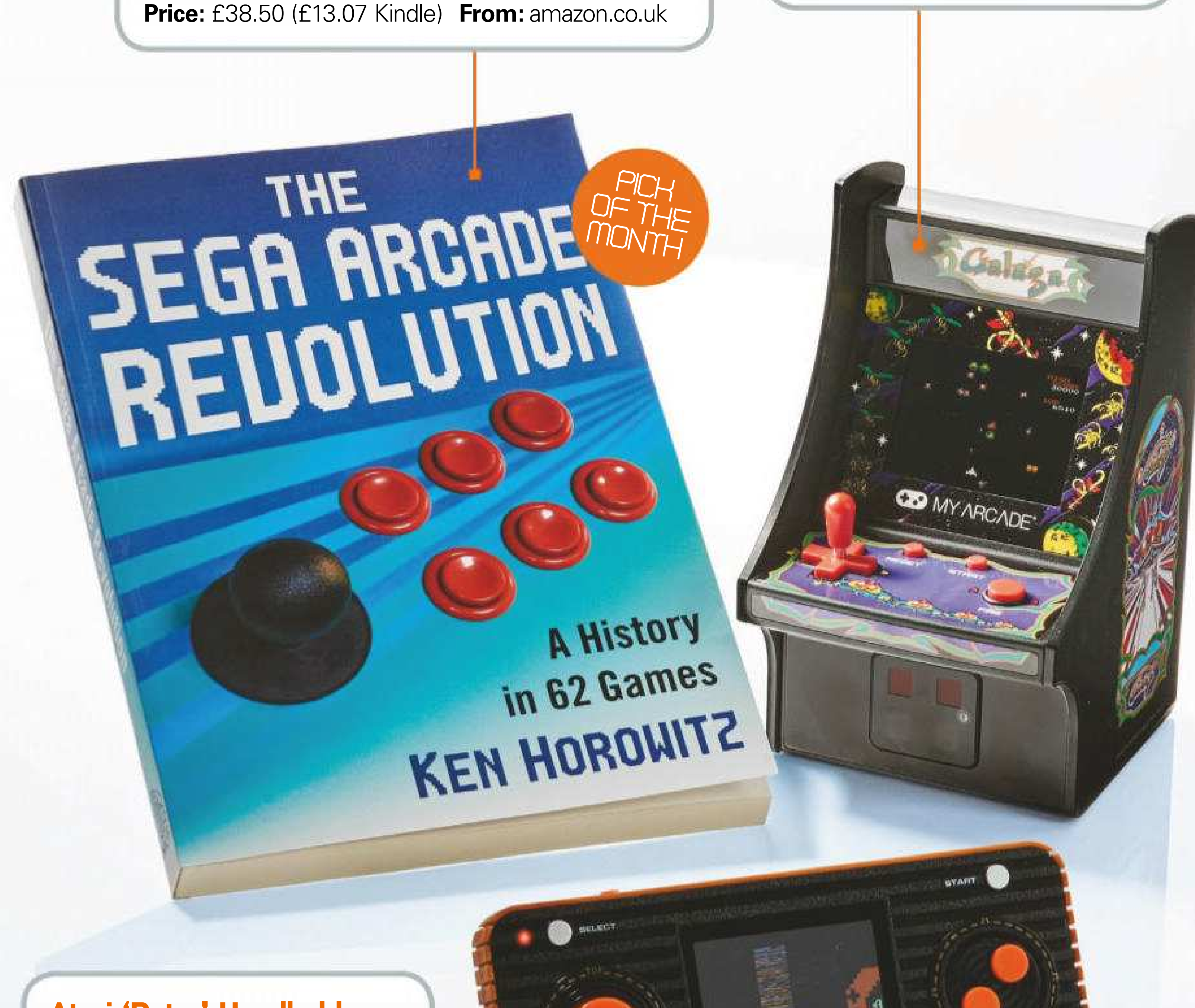
It's sadly not the original arcade version of the game, but this scaled-down rendition of the popular arcade game still manages to deliver the goods. The screen is nice and sharp, there's the option to use headphones while you play and it's powered by either four AA batteries or Micro-USB (which aren't included). The joystick can also be removed, but we actually preferred using it. Part of the My Arcade range, the series also includes recreations of *Pac-Man*, *Dig Dug*, *Galaxian*, *Mappy*, *Burger Time*, *Bad Dudes Vs Dragon Ninja* and *Karate Champ*.

Price: £29.99
From: funstockretro.co.uk

The Sega Arcade Revolution: A History In 62 Games

While it doesn't cover Sega's entire history, Ken Horowitz's book does do a very good job of focusing on its arcade success and failures. It offers a great examination of Sega's early beginnings, including its relationship with companies such as Gremlin and delves deep into some of its most important and influential games, including *Space Harrier*, *OutRun* and *The House Of The Dead*. Although there's a focus on using existing interviews (including many from **Retro Gamer**) it nevertheless does a fantastic job of painting a scene of just how successful Sega used to be in a challenging market. An essential read.

Price: £38.50 (£13.07 Kindle) **From:** amazon.co.uk



Atari 'Retro' Handheld

The latest Atari device arrives in handheld form and features 50 preloaded games that range from the likes of *Centipede* and *Adventure* to *Video Chess* and *Miniature Golf*. The selection is a bit of a mixed bag, but the emulation is decent and the screen looks nice. We can imagine this being a popular stocking filler with Christmas just around the corner.

Price: £34.99
From: funstockretro.co.uk

Zzap! 64 Annual

Fans of last year's *Crash* annual will know exactly what to expect with the latest offering from Chris Wilkins. The 112-page tome is filled with love for the Commodore 64 and new art from Oliver Frey, as well as reviews for all the latest Commodore 64 games. Original *Zzap!* staff such as Julian Rignall feature, and there's even a chance to win The C64 Mini. A great nostalgic read.

Price: £15
From: fusionretrobooks.com



Retro Gamer Subscription

It's still not too late to remind your nearest and dearest that now is the perfect time of year to get a **Retro Gamer** sub. It's the cheapest way to buy the magazine and it features exclusive covers that can't be found on the newsstand. Leave this page out with a big circle ringed round it so they get the hint.

Price: From £25
From: myfavouritemagazines.co.uk

Here's my bio… Paul Rose
Paul Rose is probably better known as Mr Biffo – the creator and chief writer of legendary teletext games magazine *Digitiser*. These days, he mostly writes for kids TV, but can still be found rambling on about games, old and new, for his daily website, Digitiser2000.com.

"I miss the days when we had GamesMaster, Games World, Bits and Bad Influence! on our screens"

Retrovision

When you look at the size of the games industry, it's astonishing that television rarely touches it. Currently, in the UK, we've got one throwaway 15-minute show on the BBC iPlayer, Channel 4 dabbled in it recently with the god-awful Rob Beckett-fronted *Playing For Time*, and Dave – at the time of writing this – has just cancelled *Dara O Briain's Go 8-Bit* and its spin-off *Go 8-Bit DLC*. Even Ginx TV – the only dedicated esports gaming channel – seems to be under threat, having terminated its contract with Virgin Media over assorted disputes.

I dunno about you, but I miss the days when we had *GamesMaster*, *Games World*, *Bits* and *Bad Influence!* on our screens. All of those shows tackled gaming in a way that was fun and authentic, and passionate, and colourful… without alienating anyone. *GamesMaster* was, lest we forget, a massive hit for Channel 4 back in the Nineties.

A proper gaming show is something that many of us yearn for, but something which TV doesn't seem to want to touch. Given the scale of gaming – easily comparable these days with the music and movie industries – it baffles me why they'd not at least try. I mean, if you want to make such a show accessible, there are decades of old games out there which would tickle the nostalgia bone of many a casual viewer and lapsed gamer. Why has Channel 4 done a '100 greatest' show on everything *but* videogames?

I work in TV for a living, and contrary to what some people seem to think – that TV is scared of gaming, because it competes with broadcasters for potential screen time – I think it's more that there aren't many gamers working in television. It isn't that they're scared; they just don't understand it, while also acknowledging that they're losing viewers to *Minecraft* and *Fortnite* videos on YouTube. Their response seems to be to bury their heads in the sand and carry on regardless.

I hope you'll forgive the infomercial-type nature of what I intend to tell you next, but I'm almost damp with excitement, and I think **Retro Gamer** readers will get a kick out of it. I've grown tired of broadcasters ignoring our hobby, so earlier this year I ran a crowdfunding campaign to bring back proper gaming TV.

Inspired by the likes of *GamesMaster* and *Bad Influence!*, I – and a group of passionate friends – have made a show that's the sort of games show I wish we'd get on Channel 4 or BBC1. In short, a show that's good enough to be on TV, and looks at all the old games and systems we grew up playing, in a bid to prove that being a gamer doesn't stop at the age of 18, when you finally grow out of *Fortnite*. It's informative, anarchic, and inclusive; everyone is welcome.

Series 1 of *Digitiser The Show* is now up on YouTube as you read this, and I'm incredibly proud of it. Please give it a watch, if only to prove that retro gaming TV can be massive. *

Do you agree with Paul's thoughts? Contact us at:

RetroGamerUK  @RetroGamer_Mag  darran.jones@futurenet.com 

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Art With Depth

Steven Gauntley sells retro game art at 8bitboutique.co.uk – we find out how these items are made

Regular readers of Retro Gamer may have noticed that we featured some unique pieces of art from 8 Bit Boutique in our Vault section. Keen to learn more, we grabbed the man behind the canvas, Steven Gauntley for a chat.

How did you get started?

After running a large company of my own many years ago I had started a corporate career, and after some huge life-changing experiences, I felt I was at a tipping point. Some people are wired such that they can be cogs in a machine, and I respect those people, but that's not me and I would have gone insane if I had stuck with that. I had to be creative, as if I don't create I die, so 8 Bit Boutique was born, which combines my passion for art and design and being creative with my lifelong love of videogames – specifically the games of my childhood in the Eighties.

How long does each creation take to make?

I put a lot of love into this, so each piece, depending on complexity, can take many hours to create. A private commission all-in can take four or five hours to create. Put it this way – if I wanted to just make money, there's a million other more effective ways, but I love this. When I'm halfway through creating a piece, I really go into the flow, and time seems to both stand still and pass quickly. I feel alive.

What do you feel sets your work apart from similar artists?

Well, in nine years I have self-taught [myself], and through that process have spent some 10,000 hours learning and perfecting my craft. I feel I bring that experience to the table, and from that I can take commissions and pretty much create anything you can imagine you might want. I pride myself on details. For example, my *Super Mario World 3D* map has over 250 individually hand-cut, hand-coloured elements that I assemble. Also, I have seen other art along these lines that is created using a cutting machine or automated process, and I really promote the artisan aspect of what I do. Everything you see from me is completely 100 per cent hand-crafted from the ground up.

What game franchises tend to be the most popular?

Zelda and *Mario* are by far the most popular, but I also have a huge customer base for art based on the old arcade games of the Eighties. I'm quite prolific, so I have created that many different ideas and concepts that I have over 500 designs on my site – plus the willingness to be commissioned to create anything at all, so my art really does span a lot of characters, games and ideas.

What's the most challenging commission you've received from a customer and how did you solve it?

The biggest and most challenging commission I received was to design an entire dentist's waiting room in the style of a retro arcade. This involved producing a series of 30 matching 3D artworks based on classic arcade games, and then creating a 30-inch-by-30-inch diorama of a miniature arcade all in blacklight, all matching up to the wall art.

> "Each piece, depending on complexity, can take many hours to create"
> Steven Gauntley

How did the new licensing deal for *California Games* come about?

I have been looking to expand my little company, and I have signed several licences to create deluxe merchandise and art based on retro games. This will all be via the brand I recently launched called Pixel Fiction, which has just launched its debut T-shirt that you can buy now at my website! *California Games* is the first one I have been able to announce, and as with my art, I'll be putting my all into designing some brilliant merchandise to celebrate this awesome game. I hope to be able to announce the other licences I have signed soon, but you can look out for a whole host of high-quality art and deluxe merchandise coming from 8 Bit Boutique in the future.

What benefits would readers get if they helped you out on Patreon?

To those people I give my total loyalty, and I go above and beyond to look after them. You can subscribe from as little as a few pounds, but the main tier is the one that's at £35, whereby I'll send you £100 worth of art and merchandise every month. Subscribe if you want something awesome!

What's your favourite piece of art?

Of my own? I love the 3D maps of the game worlds. There's just something cool about topographical style maps brought to life this way. In the world at large? I'm a big fan of William Blake, and I love the combined art and poetry in his *Songs Of Innocence And Of Experience* books. Not a very pop culture-centric answer, I know, but I take my inspiration from philosophers and poets, and from nature!



» Steven hard at work creating a *Track & Field 3D* screenshot.

BACK TO THE NOUGHTIES

DECEMBER 2001 – The seasonal blitz gives everybody reasons to cheer, from Bungie devs to PS2 owners and even Dreamcast devotees. Nick Thorpe reminds us all how the chaos of Christmas 2001 went down



NEWS DECEMBER 2001

On 2 December, the energy company Enron filed for bankruptcy days after a proposed buyout deal collapsed. Under CEO Jeffrey Skilling, the company had used loopholes to hide billions of dollars of debt, while the CFO Andrew Fastow pressured the auditor Arthur Andersen to ignore major issues. With assets of $63.4 billion, it was America's largest ever bankruptcy.

In Argentina, a financial crisis led to widespread rioting. At the beginning of the month, all bank accounts were subjected to a new limit of $250 in cash withdrawals per week, upsetting the middle class. A general strike was called on 13 December, and by 19 December rioting had spread throughout the country, leading the government to declare a state of emergency. On 20 December, having failed to convince the opposition to join the government to quell the unrest, president Fernando De La Rúa resigned.

On 22 December, passengers subdued Richard Reid as he attempted to detonate a bomb aboard American Airlines flight 63 from Paris to Miami. The British man had been radicalised after converting to Islam in prison in the early Nineties, and had previously spent time training at a terrorist camp in Afghanistan. Reid was immediately arrested upon arrival in the USA.



[Xbox] Microsoft would have had a much harder time establishing Xbox without a game of *Halo*'s quality.

THE LATEST NEWS FROM DECEMBER 2001

Who's bad? Microsoft's bad, where bad is used in the colloquial sense meaning 'jolly good, actually'. The first batch of Xbox reviews arrived in December and the clear leader of the pack was Bungie's landmark first-person shooter, *Halo*. *Edge* elected to award a full 10/10, an award previously given out just three times. The game was praised for fine control, AI which "constantly creates situations similar to *Half-Life*'s best setpieces" and multiplayer which surpassed *GoldenEye* as the standard for the genre on consoles. Most of the other early games fared well, too. *Project Gotham Racing* and *Amped* each got 8/10 scores and *Oddworld: Munch's Oddysee* received 7/10. Bringing up the rear was *Fuzion Frenzy*, which received 3/10 and was described as offering "no imagination, no innovation, no impact, no fun".

If you liked Microsoft products but hadn't been convinced by the console, then you were in for a treat – as long as you liked strategy games. *Civilization III* had arrived to claim the lives of anyone not already consumed by the previous game. *Edge* gave the game 9/10, praising it for its focus on cultural creativity, noting that the game offered "those players of a more passive persuasion an alternative to the spear and the stealth bomber". Science fiction fans may have been more enamoured with *Star Wars: Galactic Battlegrounds*, which *PC Zone* awarded 84%. Reviewer Keith Pullin felt that although it was just "*Age Of Empires II* with *Star Wars* graphics", the game was "a coup for *Star Wars* anoraks" and "a fine RTS game". He also liked space strategy game *Conquest: Frontier Wars*, awarding it 82%, and Rhianna Pratchett was enamoured with *Command & Conquer Red Alert 2* expansion pack *Yuri's Revenge*, which she said "renewed my zeal for the style and all-round gaming experience of playing a Westwood title" in an 80% review.

[PC] The problem with playing *Civ* games is that you don't tend to stop – at least until the next one arrives.

[Dreamcast] The Williams sisters have had remarkable careers – and they're going strong today.

PS2 owners were in for a delightful Christmas. Criterion's arcade racer *Burnout* was hailed as a "much-needed adrenaline-filled syringe passionately thrust into the exhausted heart of the videogame racing community" in *Edge's* 8/10 review, and it scored 77% in *Play*. *Edge* also awarded 8/10 to first-party offerings *Jak & Daxter* and *Ico*, and 6/10 to *Time Crisis II* – something



[PS2] Darting between taxis at a crazy angle? Just a regular, everyday stunt for a *Burnout* player.

[GBA] War shouldn't really be this cute, should it? These people are being blown up!



[GameCube] If only we could pluck out a disposable earthy army to help take screenshots for the mag.

Play disagreed with, offering 90% for Namco's lightgun game. *Half-Life* also arrived on the system to a 7/10 from *Edge* and 92% from *GamesMaster*. *Legacy Of Kain: Soul Reaver 2* was good but couldn't live up to the high standard of its predecessor, earning 76% from *Play* and 6/10 from *Edge*. *Play* felt that *Capcom Vs SNK 2* was worthy of a mighty 95% score, describing it as "the best 2D fighting game ever released", despite criticising the poor 50Hz PAL version. The oddity of the bunch this month was Sega's abstract on-rails synesthesia-inducing shooter *Rez*, which received a 9/10 review from *Edge* and was described as "a creation with a demonstrable cultural significance".

Rez was also available for the Dreamcast, and the system was clearly going down in a blaze of glory. The system's final Christmas offered up the superb sports sequel *Virtua Tennis 2*, which got 8/10 from *Edge* and 92% from *GamesMaster*, with the latter praising the game for its "brilliant mix of minigames and tournament options". The long-awaited *Shenmue II* also arrived and was awarded 90% by *GamesMaster* and 8/10 by *Edge*, the latter of which called Ryo Hazuki's trip to Hong Kong "a vast and rewarding experience". 17 years on, we're still waiting for that sequel. Speaking of formats in decline, PlayStation owners were treated to *Syphon Filter 3*, which received 9/10 from Jamie Dolling in *Official PlayStation Magazine*. The stealth action sequel was lauded as "the best title to hit PlayStation for some time" and was reportedly "resoundingly replayable". The magazine also gave *Worms World Party* 8/10, despite the lack of online features seen on other systems, and *Play* was suitably pleased, too, giving it 78%.

Still, it was hard to ignore the games on the newer platforms that would define the coming years. Nintendo's lightweight strategy game *Pikmin* proved to be another solid addition to the GameCube's early lineup, scoring 7/10 from *Edge* and 87% from *GamesMaster*. Reviewing the game for the latter, Mark Green felt that the game's simplicity worked in its favour, commenting that, "It's not even a tenth as complicated as *StarCraft* and the like, and that's why we love it." Strategic shenanigans were going on elsewhere in the Nintendo universe, too, with the cutesy turn-based game *Advance Wars* receiving 9/10 from *Edge*. The magazine was full of praise, describing the battles as "tense, yet fascinating" and the game as a whole as "the game the GBA was made for".

So much for 2001, then. What's coming up in 2002? The Xbox and GameCube make their way to new territories, Samus Aran returns, Disney meets the *Final Fantasy* universe and Rockstar goes totally Eighties. Oh, and we finally get a new batch of magazines to cover all this good stuff. See you next issue, where we'll crack on with January. *



DECEMBER 2001

PLAYSTATION



1. The Italian Job (SCI)
2. The Weakest Link (Activision)
3. Driver 2 (Infogrames)
4. Simpsons Wrestling (Fox Interactive)
5. Tony Hawk's Pro Skater 2 (Activision)

PLAYSTATION 2

1. Time Crisis II (SCEE)
2. Spy Hunter (Midway)
3. This Is Football 02 (SCEE)
4. Resident Evil: Code Veronica X (Capcom)
5. Dave Mirra Freestyle BMX 2 (Acclaim)

PC

1. FA Premier League Manager 2002 (EA)
2. Max Payne (Take 2)
3. Myst III: Exile (Ubisoft)
4. Operation Flashpoint (Codemasters)
5. The Sims: House Party (EA)



MUSIC



1. Somethin' Stupid (Robbie Williams & Nicole Kidman)
2. How Wonderful You Are (Gordon Haskell)
3. Gotta Get Thru This (Daniel Bedingfield)
4. Murder On The Dancefloor (Sophie Ellis-Bextor)
5. Handbags And Gladrags (Stereophonics)

THIS MONTH IN…



Edge

Reader Dave Colls emails the team to ask about the magazine doing something on the Amstrad CPC. *Edge* felt this was not worthwhile as the CPC was a "port station", providing an image caption that described it as "a fine machine if all you wanted to play were hand-me-downs from the Spectrum or Commodore 64." Ouch.



GamesMaster

Reader Paul Tynan writes, "I saw an article on *Zelda* for GameCube and some screenshots, and I was appalled at the new 2D effect. Where are the great graphics that Shigsy promised us at E3?" The magazine asked if cel shading had gone too far, wondering when an *Army Men* game with the effect would arrive. Don't scare us like that.



Play

"I'd like to point out that the quality of the letters in *Play* issue 83 – yes, this issue – has been abysmal. None of them seem to have anything to do with the PlayStation; in fact half of them don't even seem to relate to videogames at all," writes Graeme Nicholson, editor of *Play*. "I notice the quality of the replies is of a substandard quality also."

TIME

Double Dragon

LEARN TO PICK YOUR BATTLES

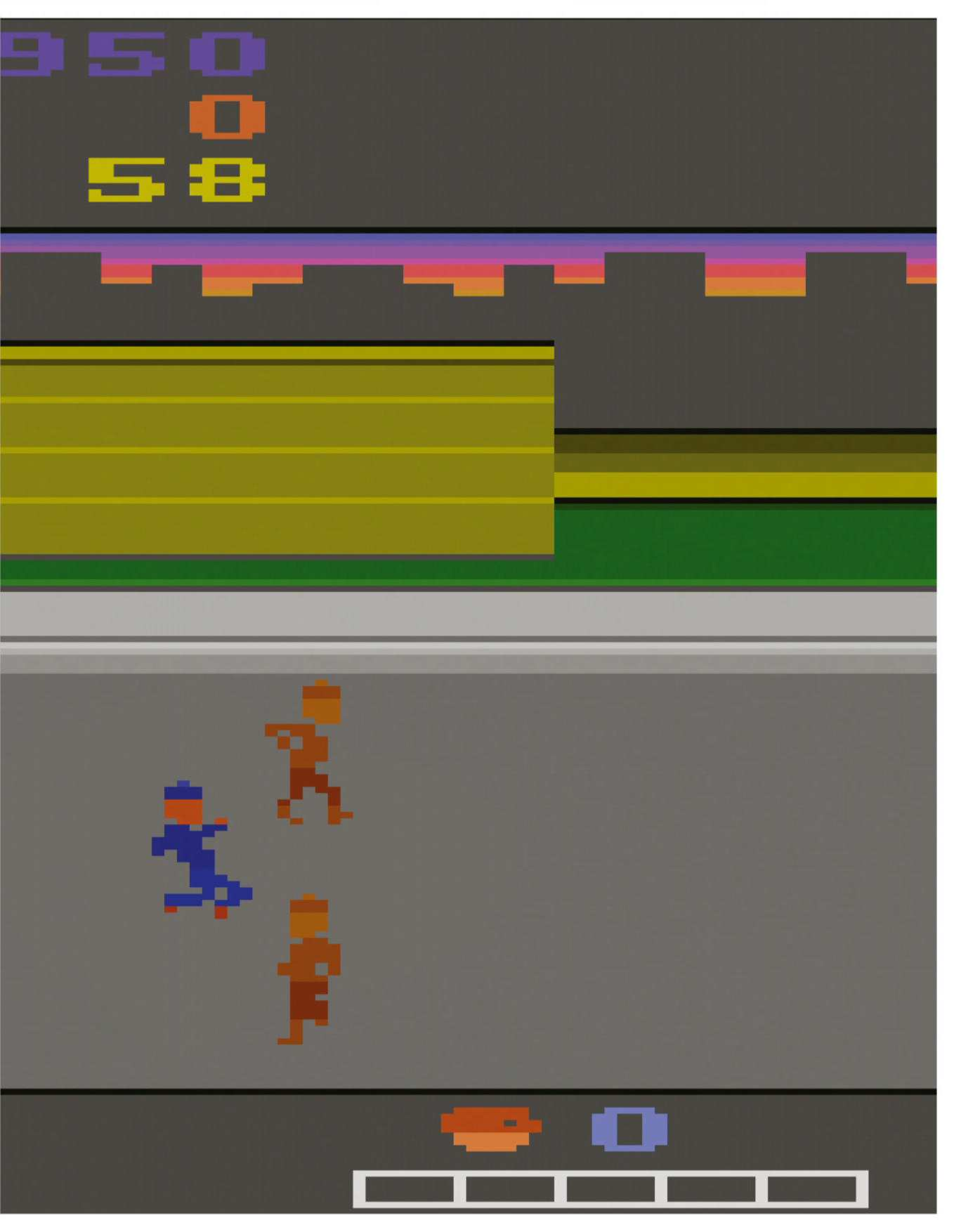
» RETROREVIVAL

» ATARI 2600 » 1988 » ACTIVISION

There aren't many shops that I remember opening as a kid, but a few stuck out. Future Zone was a shop that just sold games, so that excited me. Blockbuster Video was bigger and further away than the local independent video shop, but Lightning and Hunter from *Gladiators* were there for opening day, which made it memorable. And then there was Toys R Us – no explanation needed. It was during those early days, when I was looking at the shop's dwindling selection of Atari 2600 games, that I became aware that there was an Atari 2600 version of *Double Dragon*.

I knew *Double Dragon* – not from the arcade, but from the Master System, and even there it seemed too complex for the old system to handle. I was curious about how it looked on the 2600, and still young enough not to understand that a good version could be impossible. When I finally got to play the game many years later, I finally understood that this was indeed the case – while it just about passes as *Double Dragon*, this conversion isn't much fun compared to either the arcade game or other 2600 beat-'em-ups.

When I praised the virtues of playing games on so-called 'lesser' platforms in an earlier issue, it struck a chord with some readers out there. But it's always worth remembering that there are two sides to that particular coin, because while there are many good conversions out there (and some truly miraculous ones), sometimes it's possible to be just a bit too ambitious.


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INSIDE THE PlaySta

PLAYERS MIGHT HAVE LOVED SONY'S CONSOLE DEBUT, BUT THANKS TO ITS **REVOLUTIONARY HARDWARE DESIGN**, DEVELOPERS LOVED IT JUST AS MUCH. WE SPEAK TO PLAYSTATION DEVELOPERS TO FIND OUT WHAT MADE IT SUCH A JOY TO WORK WITH

Words by Nick Thorpe

Few consoles can claim to have revolutionised videogames in the way that the PlayStation did. Sony's brand power and marketing clout widened the console market demographic and ended the dominance of its traditional games-focused competitors. But it wasn't just a marketplace revolution – the PlayStation was an exceptional piece of technology, coupled with an approach to third-party development that supported a huge range of hit games.

As many of you will know, Sony's decision to enter the console market dates back to its work with Nintendo on the SNES. Sony created the sound chip for the console and then developed the add-on Super Disc CD-ROM format for the system. However, disagreements over CD software licensing caused Nintendo to abandon Sony in favour of Philips. The engineer central to all of this was Ken Kutaragi, who used this incident to convince executives to back his work on a Sony console. Rather than competing with the SNES and other established machines, Sony would eventually develop a 3D-capable console, inspired by the success of *Virtua Fighter* in Japanese arcades. The simple fact that a company of Sony's stature was taking an interest in the console market was a noteworthy development in itself. "It was a big part of us getting started," says Lorne Lanning of Oddworld Inhabitants. "Sony was a company that really made quality hardware, and it was an entertainment company as well – it owned movie studios and record labels. Sega and Nintendo weren't that. The idea that a wide spectrum multimedia entertainment company was stepping in was really interesting, and it was happening right at that time when the industry was projected to have tremendous growth."

First impressions count, and PlayStation developers remember the impact that the system made when they first laid eyes on it. "It was in Las Vegas at CES; Ken Kutaragi was personally doing developer PR for the new console," says Mark Cerny, then president of Universal Studios' videogames division. "He had a nifty demo of a walking dinosaur, and it was absolutely clear that this was the beginning of something very special indeed." Mark wasn't the only person to be

> "IT WAS ABSOLUTELY CLEAR THAT THIS WAS THE BEGINNING OF **SOMETHING VERY SPECIAL INDEED...**" MARK CERNY

PlayStation Classic FIRST LOOK! Turn to p28

tion



YOU'VE BEEN **WIREFRAMED**

The PlayStation's graphical hardware was a major step change from previous generations – here's how 2D and 3D scenes were constructed

Here's a scene from *Croc: Legend Of The Gobbos*. Key elements to focus on in this scene are Croc, the collectable items, the path on the ground and the objects further in the distance.

Since the PlayStation GPU doesn't have any hidden surface removal functions, the console actually still draws polygons that the player can't see. Note that you can see the internals of the well and what's behind the door.

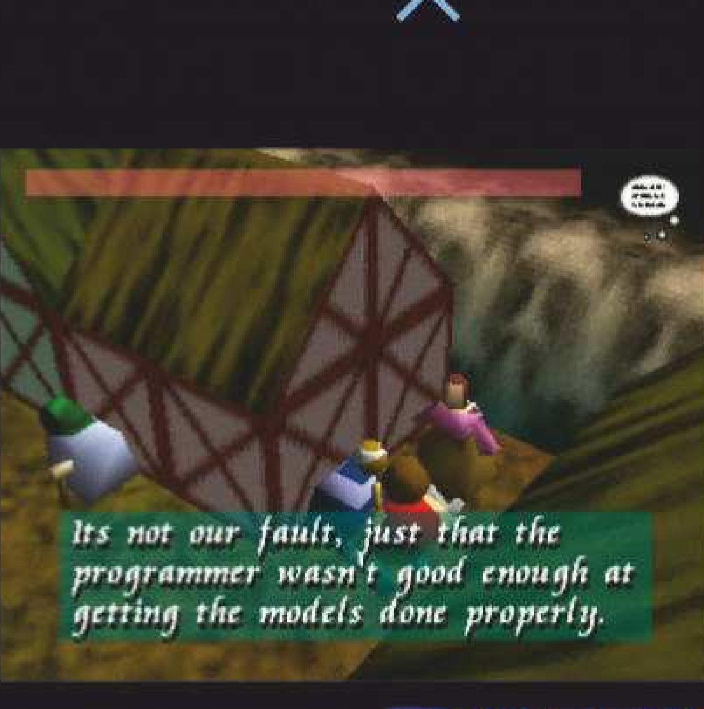
Shading and colour are used to provide extra environmental detail in the background, around the lava and on the crate, walls and well. Gouraud shading is utilised, giving a smoother appearance than flat shading.

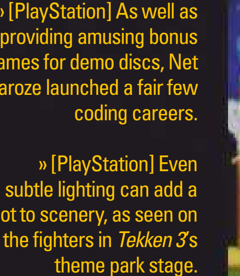
The huge white surfaces here show how heavily texture mapping is used to add environmental detail. Even in arcades, this was a new form of technology – the first textured 3D games had only appeared in 1993.

Croc himself is largely intact, as his cartoonish appearance allows for most of his detail to be conveyed in colour alone. However, his backpack and tail are missing their details, which were added with textures.

The wireframe shows us that the flat, repeating grass areas are made up of regular polygons. The irregularly shaped stone path is achieved by distorting the polygons, altering the path without needing extra textures.

These flat boxes representing the items are always facing the camera directly, as they're 2D objects drawn in a 3D space. As each object is represented with minimal polygon usage, this approach allows extra detail elsewhere.




» [PlayStation] As well as providing amusing bonus games for demo discs, Net Yaroze launched a fair few coding careers.



» [PlayStation] Even subtle lighting can add a lot to scenery, as seen on the fighters in *Tekken 3*'s theme park stage.

▶ impressed by this particular demo. "It would have been about 1994 and I received a phone call from Phil Harrison, someone that I had commissioned to write some game designs in the late Eighties," recalls Charles Cecil of Revolution Software. "Phil told me that he was working for Sony and they were planning to launch a new console, codenamed PSX – would I like to come down to their offices to take a look? Of course, I jumped at the opportunity. A few days later they showed a demo of a dinosaur moving in 3D and we were absolutely blown away."

"I first saw the PSX at a Sony developer conference prior to launch in 1995, they had a few demos running – and *Ridge Racer*," remembers Mike Dailly, then working at DMA Design. "Being a huge *Ridge Racer* fan (I even have the arcade machine), I was blown away that it was virtually identical to the arcade version, which only appeared a year or so before! They also had a T-rex demo controllable via a gamepad which also looked very cool. Such a small machine, so much power – it was an instant hit with me." The famous dinosaur demo was an impressive display of a detailed character that could be controlled in real time, but *Ridge Racer* is arguably the more important indicator of the kind of leap PlayStation offered. The arcade game, released in October 1993, was revolutionary in its own right thanks to its introduction of texture-mapped polygons. That the PlayStation came close to an arcade game running on considerably more costly hardware, just one year and two months later, was a minor miracle.

MARK **CERNY**
Lead architect, PlayStation 4

This was all the more impressive considering what other 3D-capable consoles offered. "At the time, the only remotely comparable hardware was the 3DO, but that was just too expensive from the get-go and outside of PCs with the newly fangled graphics cards the PlayStation was a game changer," says Paul Hughes, who worked at EA and Warthog during the PlayStation years. "The Sega Saturn was probably its closest rival but was a real bugger to program – you really had to get deep down and dirty to get close to PlayStation." This assessment is confirmed by Chris Roberts, who worked on Sega's console prior to moving



It's easy to mix 2D and 3D elements on the PlayStation, and you can see that the sea, sky and clock tower in the background are all true polygonal objects, albeit simple ones.

Even though PlayStation sprites are defined as rectangular objects with four points, the PlayStation GPU can only draw triangular polygons and thus internally draws every sprite as two polygons joined together.

PlayStation sprites are basically just rectangular objects with a texture mapped onto them, and they can't be shaded but are very quick to draw. They can be 8x8, 16x16 like the foreground tiles or free width and height like Richter.

In this scene from *Castlevania: Symphony Of The Night*, the elements of the scene that warrant attention are the sea and sky, the clock tower, the 2D foreground and Richter Belmont.

"PLAYSTATION, LIKE ALL CONSOLES TO COME, HAD ITS OWN IDIOSYNCRASIES TO DEAL WITH" PAUL HUGHES

to Sony's Liverpool studio. "First time I saw [the] PlayStation was while working at Silicon Dreams in Banbury – I'd been hired to work on Sega Saturn and was pretty jealous of the guys working on PlayStation," remembers the coder. "The Saturn was technically challenging, but still cool in its own way, but when I got chance to take a console home for the weekend I didn't choose the Saturn."

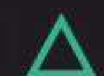
The key to all of this was the PlayStation's custom graphical hardware. The Geometry Transformation Engine was a dedicated 3D graphics coprocessor, residing within the system's CPU. "The big draw for the PlayStation was the really quick turnaround to get something up on screen and the raw 3D performance compared to the Saturn and even PC games of the time," explains Chris. "This was the era of *Quake* and *Descent* and very early PC GPUs (along with the primitive versions of DirectX) so most developers were still having to write custom triangle renderers on fairly expensive PCs to see any kind of useful performance. We had folks in the office running *Quake* with a huge border to try and get the framerate acceptable."

"Unlike other machines of its time, it was a dedicated triangle renderer, using a constant delta texturing system which allowed a high throughput of polygons," explains Mike. "Although it gave a slightly coarser texture mapping, it didn't matter once things were moving. Other systems like the Sega Saturn and 3DO just couldn't keep up, it was an amazing piece of work." In fact, the PlayStation didn't just beat its counterparts. Though it didn't have quite the same raw polygon-pushing power of the likes of the Model 2 arcade board, it was easier to work with in other ways. For example, the PlayStation offered full colour texture mapping, where the Model 2 board could only modify coloured polygons with greyscale textures.

"It was also able to blend textures and featured true semi transparency which even Sega's arcade boards couldn't do at the time," notes Martin Edmondson, formerly of Reflections. "It was truly cutting edge."

"PlayStation, like all consoles to come, had its own idiosyncrasies to deal with in order to get the best performance," Paul

LORNE **LANNING**
Cofounder, Oddworld Inhabitants





» [PlayStation] The powerful 3D instructions used to create *Crash Bandicoot*'s lush scenery were initially kept from PlayStation developers.



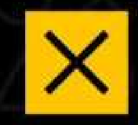
» [PlayStation] Lorne feels that *Tomb Raider* was the most visually impressive of the PlayStation's early real-time 3D games.

> *"THE REAL STEP CHANGE HERE WAS THE SWITCH FROM ASSEMBLER TO C"* CHRIS ROBERTS

adds. "Nonetheless it was still a boon to be able to offload texturing, lighting and blending to the GTE and video to the MDEC processor." For David Perryman of Attention To Detail, these idiosyncrasies had to be corrected by hand when working on *Rollcage*. "I spent time stitching together polygons. The engine we'd developed was unbelievably fast, but the nature of it meant that a lot of design work was needed to ensure the polygon meshes transitioned well between profiles. Otherwise there was a tendency for it to split as it switched between levels of detail. This was visible to the player as holes appearing ahead."

Though the PlayStation's graphics hardware was revolutionary, it wasn't perfect. "The lack of perspective correction and Z-buffering on the textured polygons (something which the later Nintendo 64 featured in hardware) could make things visually very ugly with fighting polygons and warping textures," says Martin, whose observation was common amongst our interviewees. "Solving it in software was possible, to a certain extent, but [it was] extremely polygon expensive." Chris Roberts adds to that the unusual graphical memory setup, which was split into texture pages. "The VRAM was also a bit of a chore – when developing the original *WipEout*, the team had opted to write a visual VRAM editor so that the artists could hand-place textures and colour palettes," he explains. "The tool was nice enough but it was a unnecessary job for the artists so it wasn't long before we knocked together an automatic allocator."

Of course, the PlayStation still offered 2D games, and even some devs working with 3D graphics chose to exploit the hardware's 2D capabilities. The primary reason for this was that despite the PlayStation's strengths, its real-time rendering capabilities paled in comparison to what was possible in the VFX industry. "We had extensive experience of 3D computer graphics. What I knew, due to polygonal resolution, texture mapping, memory footprint and all that stuff was that overall the 3D quality of the PlayStation in the scheme of computer graphics would be pretty lame looking," says Lorne, and he'd know – both he and Oddworld Inhabitants cofounder Sherry McKenna had worked on visual effects in the film industry. "To the gamer, it was a novelty to have 3D. On the PlayStation, the first *Tomb Raider* was the best usage of extremely limited computer graphics at the time. They really did a lot right to get the best image quality you could get in those days."



However, Lorne and the team at Oddworld Inhabitants wanted to make something that looked good – not just good for a videogame. "For me it was like, 'Our graphics can be much better than the 3D rendering of the day, but it's going to have to be played in 2D.' When I told my partner that she was like, 'What the hell are you talking about, it's going to be a 2D game? We do 3D graphics,' and I was like, 'Trust me,'" recalls Lorne. Fortunately, the market for such an approach was proven early on in development. "We were in production and already running on *Abe's Oddysee* when *Donkey Kong Country* came out, and it was like, 'Oh, perfect – they just showed us a couple more tricks that we could learn from.' They made the same choice – they said, 'If we prerender the characters and the backgrounds, we'll get that really 3D look but it'll just be being pushed as sprites.' We could prebuild everything in Maya, we could render it out in whatever resolution we wanted, and then we could scale it down to make it fit." Many devs would ultimately use some amount of prerendering for their games, although often this would be mixed with real-time 3D. This

PAUL **HUGHES**
Cofounder, Warthog Games



» [PlayStation] *Ridge Racer* was an incredible technical feat in 1994 – a cutting-edge arcade game in the home.



» [PlayStation] Four years later, Namco improved its shading and texturing, while doubling both the vertical resolution and framerate.

meant real-time 3D elements on top of prerendered backgrounds, as seen in the *Resident Evil* and *Final Fantasy* series, though occasionally games like *Klonoa* used prerendered sprites on real-time 3D backgrounds as well.

Though few other parts of the PlayStation were as revolutionary as its graphics hardware, the rest of the console's design was still driven by smart choices. The MIPS CPU was generally well liked, with Mike commenting that, "I still have the full MIPS ROM I wrote somewhere, and MIPS remains my favourite chip/assembler to this day!" Chris was also a fan. "I was already pretty familiar with 32-bit ARM assembler, so in some ways the MIPS and Hitachi processors in the PlayStation and Saturn were a small step backwards, but both of these were fun processors." However, he does note, "The real step change here was the switch from assembler to C which vastly improved development in general." The sound processor was much like the SNES sound processor developed by Kutaragi. It was capable of generating music from compressed digital samples, but could play 24 channels ▶



» [PlayStation] The kinked lines here demonstrate the PlayStation's lack of perspective correction – they should all be straight.

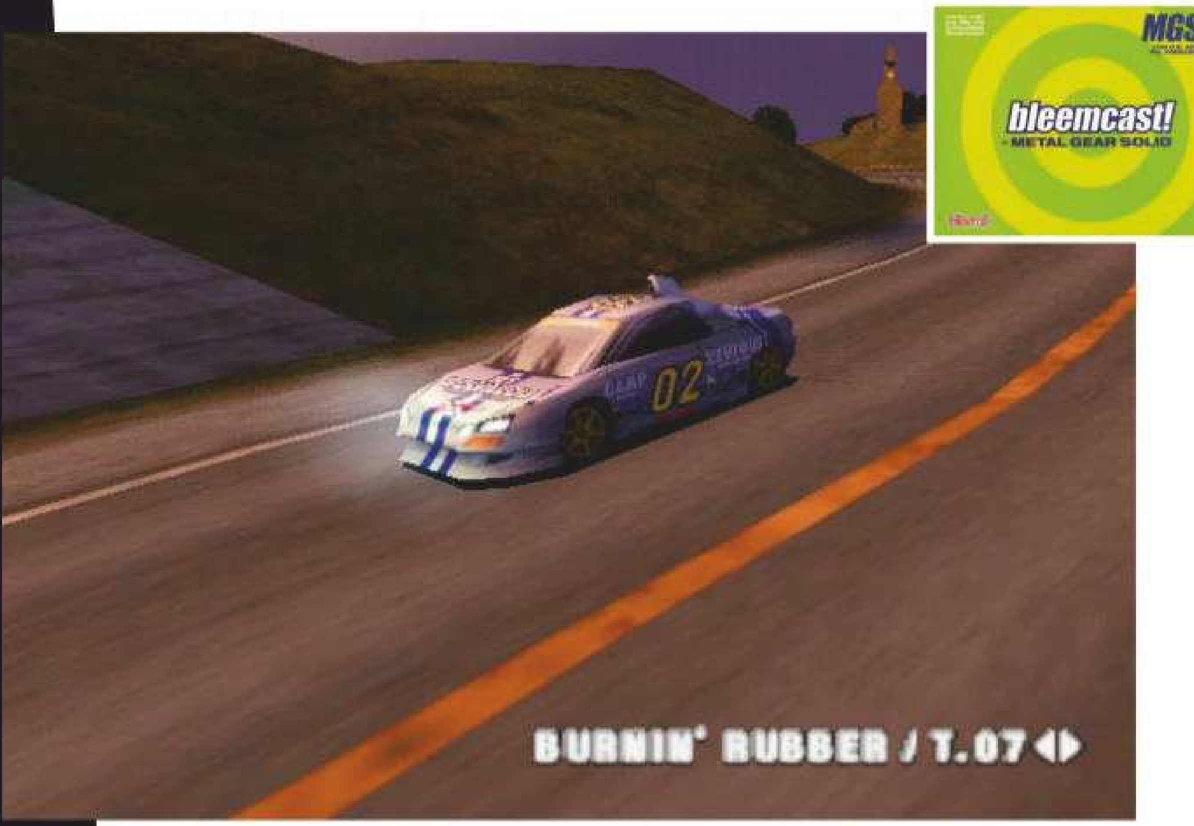
PLAYSTATION WITHOUT PLAYSTATION

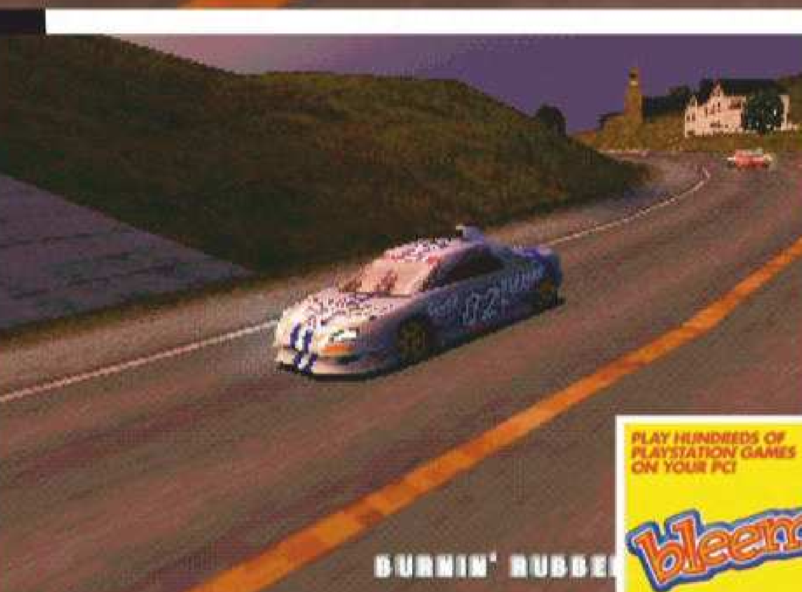
How Connectix and Bleem almost liberated your PlayStation games

The pace of technological progress during the late Nineties meant that shortly before the turn of the century, it became possible for sufficiently powerful computers to emulate the PlayStation – and two companies actually released commercial emulators.

The first was Connectix, a big player in the Mac software market which had a major success with its Virtual PC emulation software. The Virtual Game Station was released in 1999 and boasted high compatibility and speed for its time. Sony Computer Entertainment, unhappy with anything that could cause it to lose control of its platform in such a fashion, sued Connectix and won a temporary injunction halting Virtual Game Station sales. However, courts increasingly found that Connectix's behaviour had been legal and in 2000, Sony bought Virtual Game Station and shut it down for good.

The other competitor was bleem!, a company with a flagship product of the same name, which emulated the PlayStation on PCs and used 3D graphics cards to enhance games with higher resolution graphics and texture smoothing. The company also announced bleemcast!, a product which would allow Sega's competing Dreamcast to run PlayStation games. Sony was similarly litigious regarding bleem!, suing for trademark and copyright infringement but losing on both counts, before launching a patent infringement suit that bleem! was unable to financially defend itself from. The company folded in November 2001, by which time it had released discs that enabled *Gran Turismo 2*, *Metal Gear Solid* and *Tekken 3* to run on the Dreamcast.





» [Dreamcast, above] This preview image of *Ridge Racer Type 4* shows the enhancements that Bleem offered – sadly, this game's pack never saw a retail release.

» [PlayStation, left] With its unfiltered textures and lower resolution, original PlayStation hardware suffered next to emulators.

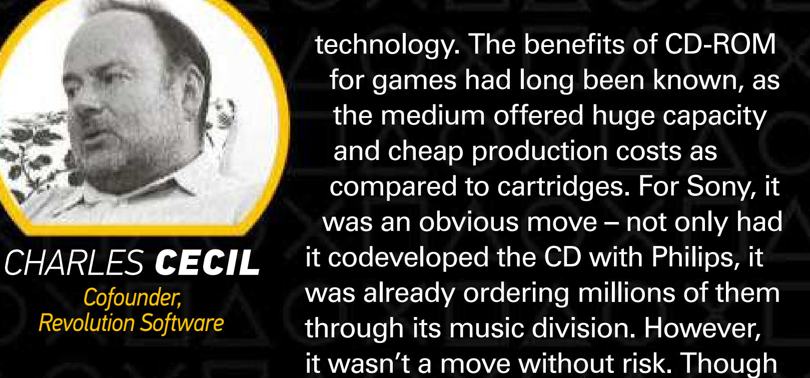


"WITHOUT THE CD STORAGE, WE WOULD HAVE HAD TO COMPRESS THE ASSETS CONSIDERABLY" CHARLES CECIL

of audio simultaneously and had 512KB memory, compared to the eight channels and 64KB memory of its predecessor. Though this was of diminished importance due to the ability to play audio from the game CD, it was often used in games where disc space was at a premium.

David does point out one area in which the console was severely limited: "Memory constraints were also a challenge, trying to fit everything into what PlayStation gave us. But I think all the constraints honed the design, without them it would have been easier to come up with a less tight design." Mike confirms this, noting, "It could have done with a bit more RAM, but most developers made it work." With 2MB main RAM, 1MB for video and 512KB for sound, the PlayStation was comparable to its primary competitors, the Saturn and N64. However, both of those machines received 4MB RAM expansions during their lifetimes. In both cases the expansions were typically used for graphical improvements with the Saturn typically using the extra RAM for better animation in 2D games, and the N64 using it for greater 3D performance. Only a small minority of games on either platform strictly required the use of these expansions, which ultimately limited their impact – and by not releasing such an upgrade, Sony did avoid fracturing its customer base.

The other main area in which the PlayStation was a leap forward was in its adoption of CD-ROM technology. The benefits of CD-ROM for games had long been known, as the medium offered huge capacity and cheap production costs as compared to cartridges. For Sony, it was an obvious move – not only had it codeveloped the CD with Philips, it was already ordering millions of them through its music division. However, it wasn't a move without risk. Though console manufacturers had been experimenting with CD-ROM add-ons since 1988 and most manufacturers of next-generation consoles had adopted it, it was an expensive technology that drove up the initial hardware cost. What's more, the industry giant Nintendo had chosen to stick with ROM cartridges, citing their speed, durability and resistance to piracy.



CHARLES **CECIL**
Cofounder, Revolution Software

Choosing CD-ROM would prove fruitful for both Sony and its roster of developers. For Lorne, CD-ROM was essential to the creation of the *Oddworld* games. "That was part of the reason for choosing to get into games at that time, just that games were going to CD-ROM storage devices. When CD-ROM came out, it was like, 'Ooh, well that'll hold enough memory that you can have 500 screens for the game, 1,000 frames of animation for each character,' you weren't looking at the limitations of a cartridge." *Broken Sword* was another game that reaped the benefits of CD-ROM. "The CD storage was very important because the game had large assets – multilayered backgrounds, huge amounts of sprite animation, and hours of music and speech. Without the CD storage, we would have had to compress the assets considerably which would have compromised the gameplay experience," recalls Charles, though he's also frank about the disadvantages of the medium. "Of course, CD

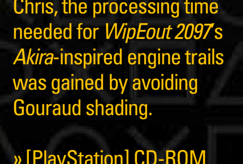












» [PlayStation] According to Chris, the processing time needed for *WipEout 2097*'s *Akira*-inspired engine trails was gained by avoiding Gouraud shading.

» [PlayStation] CD-ROM storage allowed for the detailed backgrounds, speech and video sequences of games like *Broken Sword*.



players in those days were slow at reading data, so load times were quite high and videos really did need to be compressed hard in order to stream in real time."

There's no doubt that CD-ROM helped Sony to win victory in this generation. Developers preferred it, most famously SquareSoft, which felt that the N64's cartridges didn't offer the capacity necessary to realise its vision for *Final Fantasy VII*. The cheap production costs also allowed for tactical discounting, such as when Sony introduced the Platinum range of games – older hit games at £19.99 – at the same time as the N64 hit the market. However, CD-ROM was also one of PlayStation's weaknesses. Part of the problem was that it caused hardware reliability issues. The drive lens travelled along plastic rails in early models, which would be worn away by friction until the lens began to dip, causing loading problems (often first experienced as stuttering FMV). The other problem was that as CD copiers became commonplace in the late Nineties, piracy became such a problem that the standard copy protection was no longer enough, and developers had to include extra anti-piracy measures in their games.

With such exciting hardware, it's unsurprising that developers wanted to work on the PlayStation. In the early days, that meant competition. "Reflections had a long publishing history with Psygnosis (who had recently been purchased by Sony) through our previous catalogue of games. But even though the dev kits were on the ground we still needed a compelling design to secure one for ourselves. In fact, we were in stiff competition for those early kits with quite a few other studios, and Sony's internal dev teams too of course." explains Martin, who had one of the few UK-developed games ready for the console's European launch. "I remember showing the *Destruction Derby* concept to them and they were thankfully excited so we bagged a dev kit soon after that. I remember those earliest dev kits were almost [like a]photocopier in size, but were soon replaced with more convenient units the size of an old VHS recorder."

For all the revolutionary hardware, perhaps the biggest step forward was Sony's treatment of third-party developers, and this is what allowed *Destruction Derby* to hit a tight deadline. "It may have been considered 'early' by some but it still only left us with seven or eight months until the machine's European launch so everything was extremely tight," Martin continues. "We worked fast and such was the well-designed hardware and libraries that within a day we had a textured polygon spinning around on the screen, and not even a week later a circular track with a demo car flying around it. Then the hard work began on the physics for the crashes, AI and so on."

Martin isn't the only one who enjoyed Sony's approach. "Up until that point you got generally got a fat document with a couple of tersely documented examples and then it was pretty much over to you until you submitted your project," explains Paul. "Unless you were a serious player in the industry with connections right to the top of the totem, developer support was pretty basic at best. Sony really led the revolution; they realised that helping (and listening to) the developers benefitted their platform." In fact, Sony wasn't just open to commercial developers. While it certainly wasn't cheap, the Net Yaroze scheme

DAVID
PERRYMAN
Track designer, Rollcage; producer, Attention To Detail



» [PlayStation] David's time stitching polygons was well spent, as *Rollcage*'s tracks look very solid by PlayStation standards.

NEVER OVERESTIMATE THE SIZE OF PLAYSTATION

The PlayStation Classic is hitting shelves right now – we go hands on with the mini console

We've been fascinated by Sony's first venture into the world of plug-and-play retro consoles ever since its initial announcement, as there's a huge potential market for the system, but the original hardware presents some unique challenges. We were able to get a little bit of hands-on time with the PlayStation Classic just before we went to press, and can present our first impressions here.

As a miniature representation of the PlayStation, the PlayStation Classic is very accurate. The details of the original are carried across with great care – everything is sized proportionately, and even the rarely-used expansion port is represented. In fact, the text-based buttons suggest the system is fashioned after the earliest models of the system. The controllers are authentic recreations of the PlayStation's original digital controller – apart from their USB connectors, they're externally indistinguishable both in look and feel. The cables are of a good length, too. The boot screen includes the familiar booming bass of the original machine's boot screen, and the system menu is fashioned after the original memory card/CD player interface (though it's the colourful Japanese and later export version, not the original grey export version).

The 20 games included in the collection makes for a pretty eclectic mix. There's solid representation of the key third-party franchises from the PlayStation years, some of the better first-party games and then some surprise inclusions – most of which are welcome, such as *Mr Driller* and *Wild Arms*. We're surprised that some of the games were chosen over their superior sequels (*Destruction Derby* and *Twisted Metal* in particular), but almost every game included is at least solid – the only game we'd really single out as a bit of a stinker is *Battle Arena Toshinden*. There are some high-profile omissions, though. It's no surprise not to see



Gran Turismo, *WipEout* or *Tony Hawk's Pro Skater*, all of which would have been licensing nightmares, and we'd guess that *Crash* and *Spyro* didn't make the cut due to the availability of their remasters. However, the lack of any *Tomb Raider* representation is a surprise, and we'd expected *PaRappa The Rapper*, too.

The PlayStation Classic includes a virtual memory card for each game in the library, meaning that you won't have to worry about memory-hungry games like *Final Fantasy VII* crowding out your other saves. Each game can also store one suspend point, which is created by hitting the reset button. The system outputs at 720p over HDMI, and each game is presented in its original 4:3 ratio with what appears to be a simple bilinear filter, providing a soft image. There are no display options, so common CRT-style effects such as scanlines are not available, nor are enhancements such as the texture smoothing offered on PS2. It appears that there's a mixture of PAL and NTSC versions included, as some of the games showed Sony Computer Entertainment Europe splash screens upon start-up, and others showed Sony Computer Entertainment America.

Our brief taste of the PlayStation Classic has answered some questions, but we'll hold off a full verdict of the product until we can get an extended look at the machine.



allowed hobbyist coders to make their own PlayStation games. Many of these appeared on the demo discs of *Official PlayStation Magazine*, and launched the careers of a number of developers.

Still, not everything was wholly transparent, as Sony initially seemed reluctant to let developers fully exploit the PlayStation's graphics hardware. "The powerful 3D math engine was hidden behind a library, which meant that anyone serious about creating virtual worlds needed to have the real documentation leaked to them," says Mark. "Luckily that happened rather early on in the development of *Crash Bandicoot*, and we were able to create some amazing environments and characters!" The same thing happened to Chris and his team in Liverpool. "I remember a Sony conference in London that happened while we were working on *WipEout 2097*, and one of the presenters was talking about the COP2 instructions (responsible for 3D vector maths) and how you shouldn't call them directly. I recall shifting uncomfortably in my seat since we'd been using these pretty much non-stop from the outset," he confirms. "I've no idea why this restriction was there or where our COP2 instruction list came from, but Sony did eventually make these public."

What's more, eventually the machine was so well documented that it became possible to get by without the help of Sony. "By the time I got to actually code a game on the PSX – and not just mess with a dev kit, I had moved to Visual Sciences and it had been out for a while, so you didn't really need Sony for tech support. I got vast amounts of info from the net," recalls Mike. This enabled him to take a very creative approach to increasing the amount of development hardware available to his colleagues. "I reprogrammed an Action Replay into a dev kit, and even did a snapshot cart for it. I was able to give all the artists 'dev kits' via a £10 cart so they could see their art on the TV, and even QA were able to get one and used it when the

» [PlayStation] The reflection effect in *Gran Turismo* was impossible even on contemporary arcade hardware.



» [PlayStation] The PlayStation's ease of use and wide install base made experimental games such as *PaRappa The Rapper* possible.

» [PlayStation] The impressive music in the PlayStation's *Final Fantasy* games was actually generated via the sound chip to save CD space.



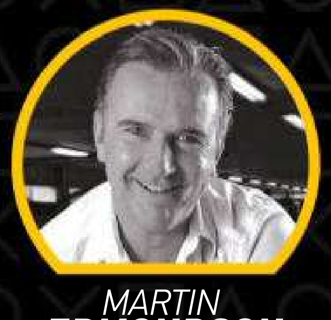
"THIS WASN'T JUST MOVING TO A NEW PLATFORM, THIS WAS THE MOVE FROM 2D TO 3D" MARTIN EDMONDSON





game crashed, downloading the whole program onto the PC so a coder could then upload it and find out where it crashed. It was great fun!"

Of course, making the most of all of this new hardware meant that game development changed fundamentally, with more manpower required to get things done. "In the very earliest days our team size only increased from four (Commodore Amiga) to seven for PlayStation so it wasn't a huge increase initially. This was partly due to the relatively pared-back design of *Destruction Derby*, there simply wasn't time for hugely complex and deep games to make the launch window," Martin recalls. "This all changed rapidly for the next releases however, we had around 30 or so working on *Driver.*" But despite the increased overall labour demand, the PlayStation reduced the need for some skillsets. "This wasn't just moving to a new platform, this was the move from 2D to 3D. This was a seismic shift as artists and coders needed to learn a whole new set of tools and technology. Teams ballooned in size, and many found themselves unable to keep up," explains Mike. "DMA had to let several good 2D artists go as they just couldn't make the transition, and coders had to learn to use proper 3D maths, from points, vectors and matrices, to 3D model formats and DMA pipelines. It was a brutal switch."



MARTIN **EDMONDSON**
Cofounder, Reflections

Still, the PlayStation era's teams were smaller than those making games today. "I miss the small team sizes it afforded – and from that, flexibility," says David. "When we were building the final 'Alpha' submission for *Rollcage Stage II*, it was late at night and a few of us were there. I'd been plagued by a design problem for months: how to soften the blow when players were beaten over the line after being out in front for a long time. Geoff Browitt was ready to make the final build and made the mistake of asking if there was anything else to go in. It was at that point the idea of the Total Racing points system was born – Geoff knew there were hooks into all the game's events and with Gavin Cooper we thrashed out the details and got a new game mode in at the last minute."

That's what makes the PlayStation era so exciting – a combination of boundaries being pushed and teams that were still small enough to be able to take risks. And as Mark reminds us, the result of all that is an extraordinarily diverse library of games. "The technology was great, of course, but I think what PlayStation did best was unleash the frustrated creativity of the games community. Suddenly, anything could be a game… *Parappa The Rapper*, or *Devil Dice*, or *Intelligent Qube* – these are some of my favourite PlayStation memories." Though the PlayStation conquered the console industry with a combination of power and ease of programming, its successors did not follow the same path. The PS2 was considered difficult to work with, and the PS3 even more so. "We'd hoped that PlayStation 4 would make it a bit easier to make games, particularly as it came after the PlayStation 3 which was such a beast to tame," says Mark. "What I didn't foresee is that once games were easier to bring to the console, there would be a return to the variety of game experiences that made the early PlayStation years so remarkable."

Mark is right. The PlayStation was great to work with – and when life is easy for developers, there are fewer barriers to trying new things. It offered something for everyone, whether that was arcade conversions and Japanese oddities, the *Harry Potter* and dancing games your younger sibling liked, or the football and racing games that were just realistic enough to catch your dad's attention. Without the extraordinary technology, that diversity wouldn't have been possible – and we might've found ourselves still waiting for the first console to reach 100 million players. ★





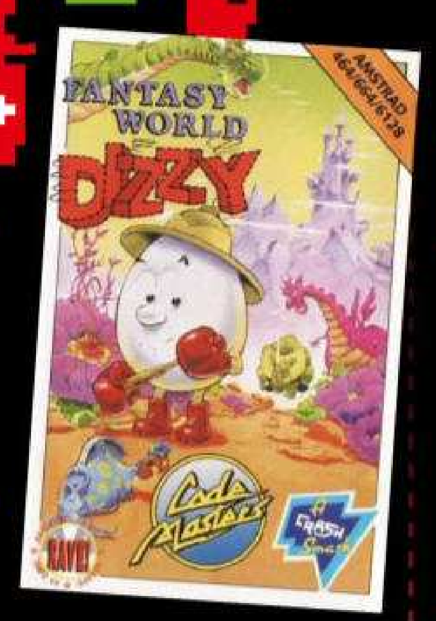
MIKE **DAILLY**
Cofounder, DMA Design

THE MAKING OF

Fantasy World Dizzy

Dizzy's original outing was a slow-burn success, but the follow-up was an overnight sensation. The Oliver twins tell Retro Gamer how they capped their trilogy with arguably Dizzy's greatest adventure – Fantasy World Dizzy

Words by Rory Milne



IN THE KNOW

» **PUBLISHER:** CODEMASTERS
» **DEVELOPER:** THE OLIVER TWINS
» **RELEASED:** 1989
» **PLATFORM:** AMSTRAD CPC, VARIOUS
» **GENRE:** ADVENTURE

Releasing a sequel to a popular game was far from a given in the Eighties. That's not to say that developers were adverse to following-up chart-topping titles, but this approach was tempered by the knowledge that sales of a well-reviewed original game would typically eclipse those of a poorly-reviewed sequel. That said, a follow-up with good write-ups could potentially attain bestseller status, and 8-bit coders Philip and Andrew Oliver's Treasure Island-set successor to *Dizzy* had done just that. But as popular as their titular hero Dizzy's first two adventures had been, the twins next put their egg-shaped hero in a junk food-themed *Pac-Man* clone, as Philip explains. "It was pretty obvious from *Treasure Island Dizzy* being so successful that we had a *lot* of *Dizzy* fans, but *Fast Food* was a weird kind of accident," the developer says of the *Dizzy* spin-off. "We loved *Pac-Man*, and so one Friday night, we just said, 'We could knock out a *Pac-Man* game really quickly, we can have it finished by Monday morning if we just knuckle down!' And that's what we did. But the reason *Dizzy* was popular was because of the adventures, and we wanted to move *Dizzy* on. We wanted to do the biggest, best *Dizzy* adventure that we could."



» [Amstrad CPC] Certain obstacles in *Fantasy World Dizzy* require precise timing, such as this malfunctioning portcullis.

The plan had to wait, however, as the twins' next three games were non-*Dizzy* projects. But once they had cleared their slate, they looked to a favourite BBC Micro title for ideas on how to begin Dizzy's third adventure – *Fantasy World Dizzy*. "Dizzy being locked in a dungeon came from *Castle Quest* for the BBC," Philip says. "It was an interesting game where you started in a single room where you had been imprisoned, and you had to get out, and we just thought that was a really nice intro. But we also needed to lock Dizzy in a single location to teach players to pick an object up and take it where it needed to be used. If we had allowed people to explore too much, they might not have realised what they had to do."

Take this to the friendly shop keeper. He'll give a message and swap the cow for a bean

"YOU CAN'T SELL A COW THAT SIZE HERE'S A BEAN – DON'T SAY I'M NOT GENEROUS!"

Take the bean to the vegetable patch

place the bean where the scroll was and a small sappling will appear

If you pick the sappling it describes it as a dead sappling which was alive – until you picked it.

To make it grow you must take the bucket to the well, the well will lower it and return a full bucket, take this and tip it on the sappling.

A massive bean stalk will appear which is climbable

» A more complicated plan for *Fantasy World Dizzy*'s beanstalk is detailed in the game's design documents.

The Olivers wanted to encourage players to explore, and so they designed a bigger world for their latest *Dizzy* project. "Our belief was that if we were going to improve on Dizzy and *Treasure Island Dizzy* then we needed to be a little bit bigger, but also a little bit richer in every aspect of the game," Philip considers. "So everything had to be better, we had to improve every area. There had to be more interesting locations, more narrative and more characters."

But rather than making these additional characters opponents for Dizzy to overcome, the twins instead decided to give him allies that could help him solve puzzles. "While working on *Treasure Island* we were surprising ourselves, because by being clever we could actually get a lot in, so we put in some enemies," Andrew says of the characters in *Fantasy World Dizzy*'s predecessor. "But they were just things to kill, and we wanted a game that was about puzzle-solving, not killing, so for *Fantasy World Dizzy* we said, 'We need to make characters that are *obviously* Dizzy's friends,' so we made them look like Dizzy."

As well as handing out advice and items, one of Dizzy's friends – the eternally sleepy Dozy – also added a pinch of humour, which Philip insists wasn't inspired by a deckchair related 'accident' that Andrew had. "We had the idea that Dozy would be at the furthest edge of the map, and so we had to make sure that there was something there that stopped players going any further," Philip reasons. "So we decided to make it a pier. It was Dozy at the seaside, so why not stick him in a deckchair? That made sense. Not that I'm referencing the fact that I did this to Andrew! I mean, I did horrifically injure Andrew in a deckchair once, but that's another story. So when we put Dozy on the end of the pier, we just thought, 'Hah! Wouldn't it be funny if you could kick him in?' We didn't have room for more graphics, but it didn't need any more, we just moved the sprite to kick him off!"

CONVERSION CAPERS

How the different versions of Fantasy World Dizzy stack up

AMSTRAD CPC

■ As it was designed for the Amstrad, it's not surprising that the CPC original is top-notch. Its environments are designed around the chosen four-colour palette, so they look great. Responsive controls make the game's platforming a joy, and its lively tunes are never repetitive.



COMMODORE 64

■ Like the first two *Dizzy* adventures, the C64 *Fantasy World* was ported by Ian Gray. This adaptation is a faithful one, although it turns the upside-down Australian stage the right way up. It adds a border graphic and death animation that the original doesn't have, though, and it sounds great.



ATARI ST

■ In-game music quality aside, the ST *Fantasy World Dizzy* is identical to the Amiga version. As with the Commodore port, the new levels in the ST game contain pick-ups that net you points. There aren't any new puzzles in them, either, but they do test you with some tricky platforming.



ZX SPECTRUM

■ Converted by the Olivers, the Spectrum iteration is as close to the original as you could expect. On the downside, there's a little colour clash, but the game has more colours on the Sinclair systems than on the CPC. The Spectrum 128K version also has a spoken welcome message.



AMIGA

■ The team that brought *Fantasy World Dizzy* to the Amiga, ST and DOS delivered everything you could hope for an upgraded conversion. All three versions have much-improved visuals, more collectibles and extra screens, but the Amiga port is the best thanks to its superior soundtrack.



DOS

■ This is the poor cousin of the 16-bit versions in terms of audio – there's single-channel chiptune music pregame and sparse sound effects in-game. Otherwise, it replicates its Amiga and ST counterparts, including their cutscene interactions between Dizzy and his friends.

GUIDE TO FANTASY WORLD



ESCAPING THE DUNGEON

■ Bribe the troll with the apple, and he'll tell you to throw the jug of water on the fire to put it out. Next, walk through the fireplace, give the stale bread to the hungry rat and he will run off, leaving a clear path to the dungeon exit.

CROSSING THE BROKEN BRIDGE

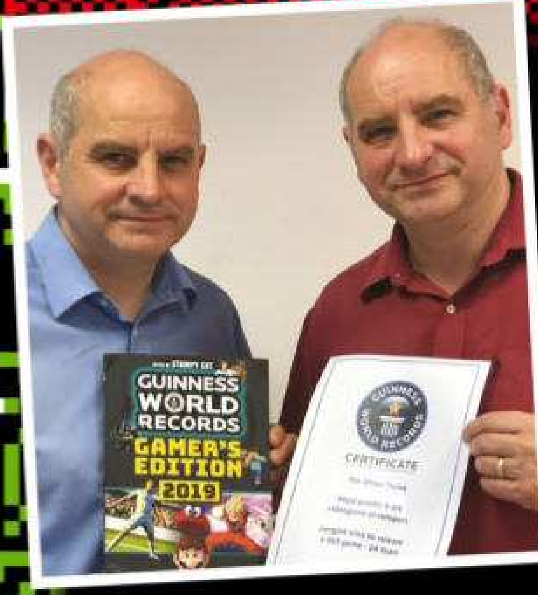
■ Find a boulder and the bone, and then swap the bone for the boulder next to the Armorog. Zoom past the hawk, drop both boulders into the water under the broken bridge to raise the floating platform, and then use that to cross the water.





CALMING THE DRAGONS

■ Get the sleeping potion from Dozy – he's three screens to the left of the broken bridge. Once you have done that, drop the potion next to the wide-eyed dragon in order to slip your way past him. Take the dragon egg from the Cloud Castle to the dragon's lair to get past the lair's inhabitant.



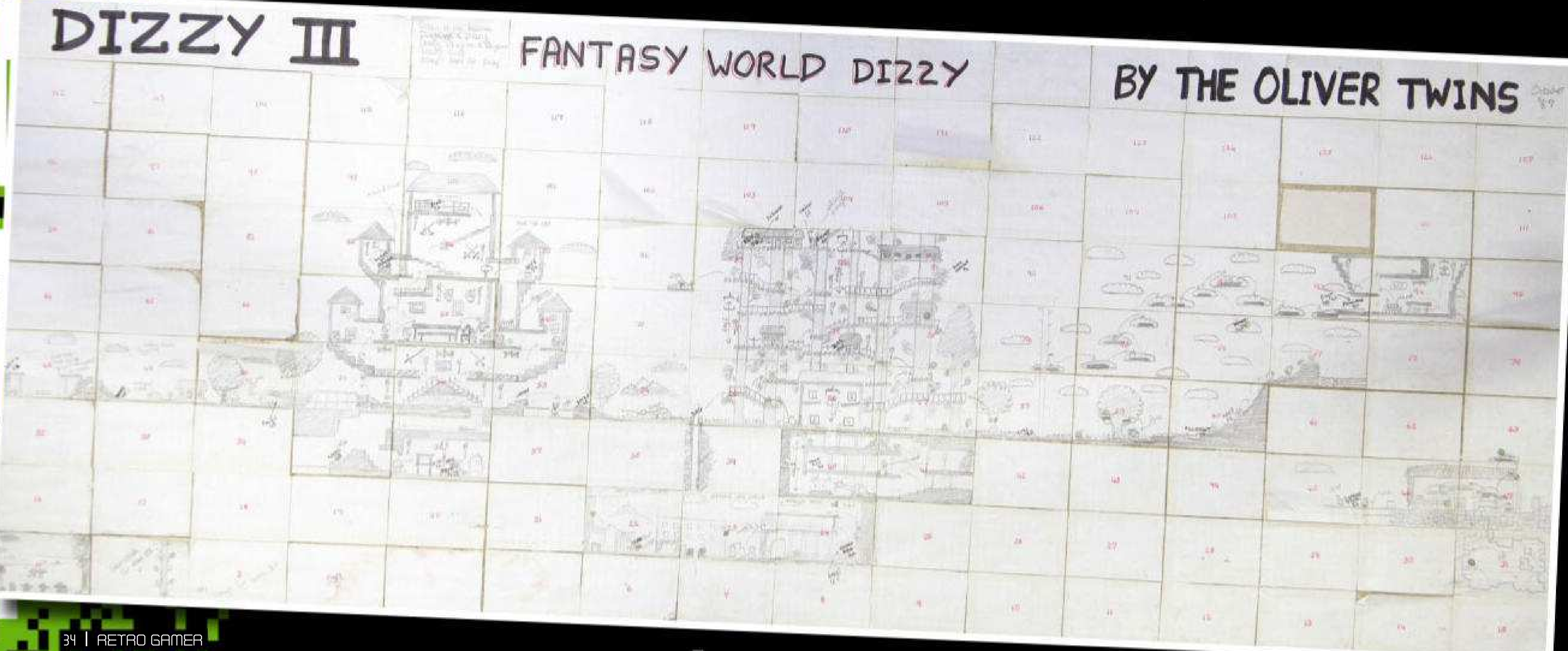
» The Olivers are listed in 2019's *Guinness World Records Gamer's Edition* as the most prolific 8-bit developers.

» The Olivers' original map for *Fantasy World Dizzy* shows a right-way-up Aussie section.

This one act of amusing violence aside, the Olivers wanted Dizzy to be a pacifist focused on puzzle-solving in order to avoid overcomplicating his latest adventure. "Dizzy was not about combat," Philip asserts. "We had done that in Super Robin Hood and Ghost Hunters, and this was deliberately a non-combat game. We also wanted to have the fewest number of buttons, because having another button would make the game twice as complicated. The idea of somersaulting and landing on something's head was not a concept that we had thought of – we hadn't seen *Super Mario Bros* at that point."

But while Philip and Andrew hadn't yet encountered Nintendo's seminal platformer, the brothers had been exposed to classics from a different medium, and these helped inform their ideas for *Fantasy World Dizzy*'s puzzles. "We wanted to make the puzzles relevant to a story, and the *Looney Tunes* cartoons set out very clear objectives," Philip recollects. "So in *Tweety Pie*, Sylvester had to catch the bird. But the thing that made the comedy was that what you *thought* would happen *didn't*, and Sylvester's failure opened up other opportunities." Andrew agrees, and explains how these opportunities inspired the twins to link their game's puzzles together, "We thought, 'What we've got to do is link opportunities together so that when you do *one* thing it will enable *something else*.' That was a chain, and it became *far* more interesting when you had a chain of events."

Many of *Fantasy World Dizzy*'s chained puzzles boiled down to unlocking access to more of the game, but the Olivers decided to compliment these with a core challenge that channelled a classic



How to beat Fantasy World Dizzy's most memorable puzzles

GROWING THE BEANSTALK

■ Crowbar open the well and jump down, then trade the cow with the shopkeeper for the magic bean. Jump back up the well, get the bucket and fill it with water from near the volcano. Lastly, plant the bean in the fertiliser and water it.





RESCUING DAISY

■ Get the rug from the dragon's lair, then jump your way up the beanstalk, and then from cloud to cloud until you reach the lofty Cloud Castle. Throw the rug over the daggers so that you can cross them, and then finally pull the lever to lower the lift and free your beloved Daisy.

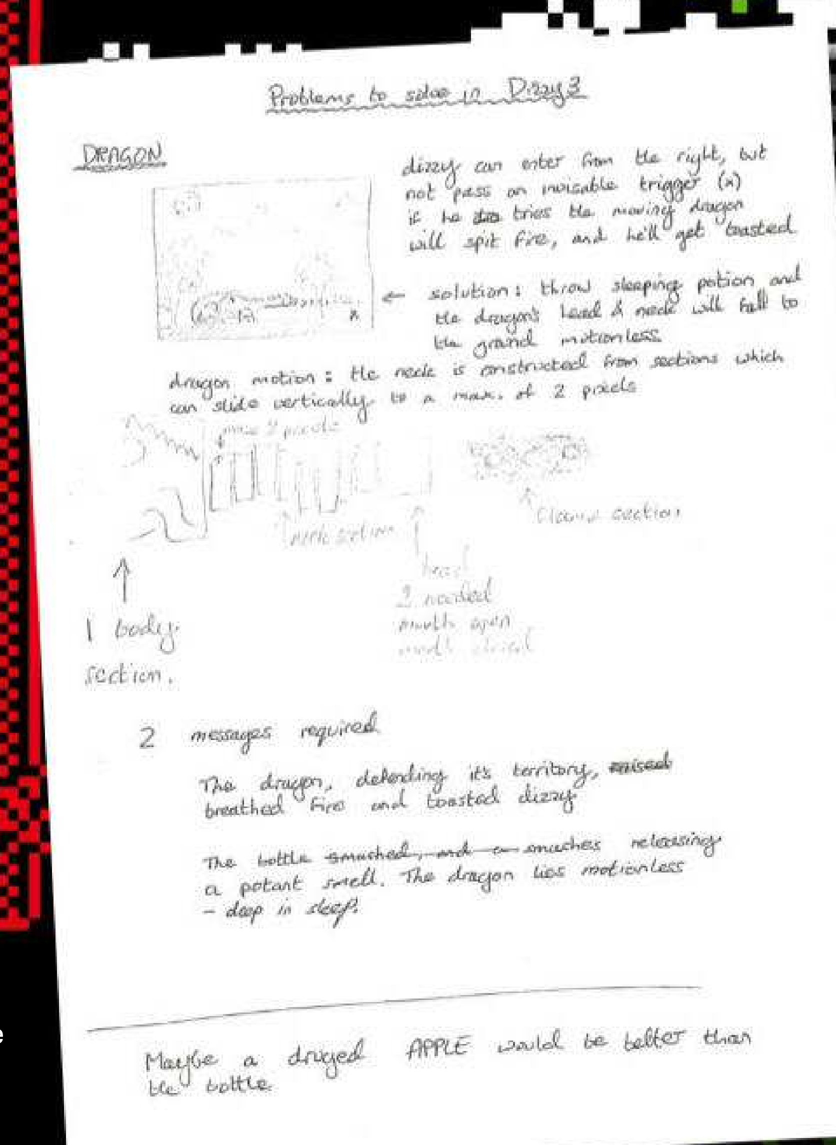
fairytale. "Obviously the big chain of events in *Fantasy World Dizzy* was *Jack And The Beanstalk*," Philip points out. "So you needed the cow and had to swap it for a magic bean, plant it, grow a beanstalk and climb it to get into the Cloud Castle so that you could rescue Daisy and get out." Andrew qualifies his brother's summation, "But you would be thinking halfway through: 'Why do I need a bucket?' You thought you had beaten the puzzle by planting the magic bean, but that didn't work. The bucket was empty, but there was water. So very quickly we could make little stories out of key-and-lock puzzles chained together."

Given that their game's puzzles relied on carrying objects to obstacles, the twins realised that by putting a limit on the items that Dizzy could carry they could add tactics and additional platforming to Fantasy World Dizzy's challenge. "Players had to think when they found a new object: 'Do I want to take it?' So they had to use strategy," Philip argues. "It also allowed the player to think that Dizzy's pocket was only a certain size – even if it could fit ladders and buckets in it, and a cow! Although we did call it a Pygmy Cow, because were you *really* going to fit a cow in your pocket? So it was an attempt to make people think: 'Do I need it *now*?' And if they did pick it up what did they have to put down, plus the thought: 'Am I going to screw myself putting it down in the wrong place?'"

In addition to limiting Dizzy's inventory, the Oliver twins also differentiated *Fantasy World Dizzy* from its predecessors by turning some of the game upside-down. "It was the right way up when we hand-drew it," Philip recollects. "It was only later that we said, 'Wouldn't it be fun if the well was really deep, and then you fall out onto the other side of the world? We can do it upside-down!' It made everything look interesting, but it also played differently because we changed the controls around so that 'up' was 'down'. We were putting the market down there, so we needed a shopkeeper. It was the other side of the world, so we made him an Aussie and put one of those hats on him with corks on strings! It was a cheap trick, but it provided comical entertainment."

Perhaps less amusing was that the twins were under pressure to complete Fantasy World Dizzy in time for the festive sales period, and although it wasn't reviewed until the new year, the quality of Dizzy's previous adventures ensured that this didn't affect his latest game's sales. "It was pretty important to hit the deadline and get it out quickly because that was the last good Christmas for the 8-bit machines," Philip says of gaming's changing landscape at the dawn of the Nineties. "The sales were spectacular, as expected. Codemasters, the distributors, retail and both of us knew that it would be a bestseller."

Decades after the release of their third – and likely best – *Dizzy* adventure, the Oliver twins look back on the puzzle-filled platformer with pride. Andrew views the game as an evolution that marked the end of an era. "It moved *Dizzy* on significantly, and it was pretty much all our work," he says. "Beyond that, we started getting more teams and we moved to an office, so we're really proud that we did *Fantasy World Dizzy* at home in our bedrooms." Philip gets the last word on *Fantasy World Dizzy*, and singles the game out as a career high. "I'm fond of and proud of what we managed to create. It was one of our best," the designer enthuses. "It was a really enjoyable time where there were no distractions. Our heads were down working long hours but loving it and loving the feedback and the praise. Everything was awesome; *Fantasy World Dizzy* just hit the sweet spot, really." ✱



Problems to solve in Dizzy3

DRAGON

dizzy can enter from the right, but not pass an invisable trigger (x) if he ~~does~~ tries the moving dragon will spit fire, and he'll get toasted

← solution: throw sleeping potion and the dragon's head & neck will fall to the ground motionless

dragon motion: the neck is constructed from sections which can slide vertically to a max. of 2 pixels

1 body section.

2 messages required

The dragon, defending its territory, ~~raised~~ breathed fire and toasted dizzy

The bottle ~~smashed, and a~~ smashes releasing a potent smell. The dragon lies motionless – deep in sleep

Maybe a drugged APPLE would be better than the bottle

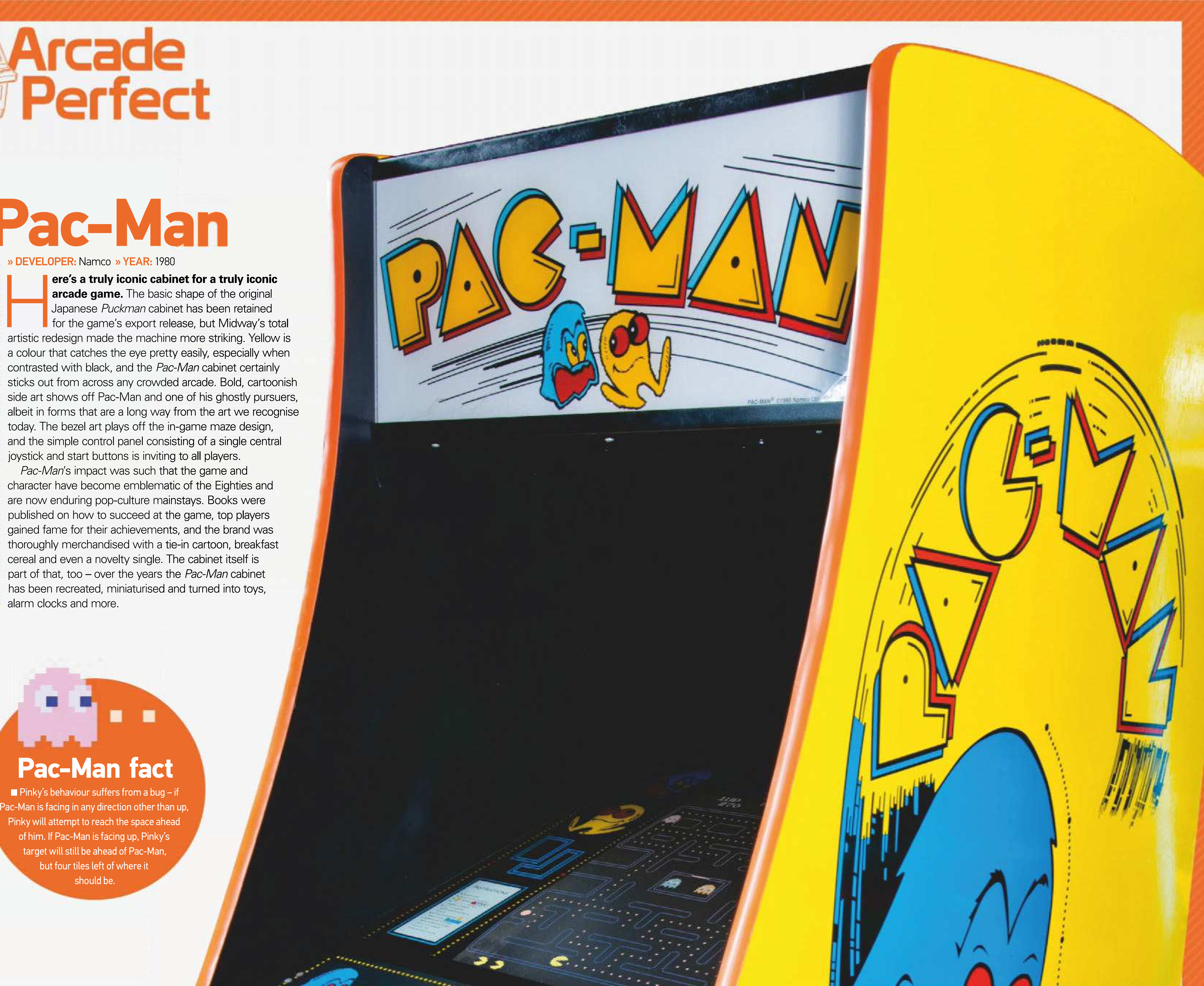
» *Fantasy World Dizzy*'s development notes suggest subduing the game's wide-eyed dragon with a drugged apple.



» [Amstrad CPC] We never knew Dizzy had a soft spot for hard boozing, no wonder he rolls everywhere.



» [Amstrad CPC] Dizzy encounters a problem that we've all likely had, in some form or another.



Pac-Man

» DEVELOPER: Namco **» YEAR:** 1980

Here's a truly iconic cabinet for a truly iconic arcade game. The basic shape of the original Japanese *Puckman* cabinet has been retained for the game's export release, but Midway's total artistic redesign made the machine more striking. Yellow is a colour that catches the eye pretty easily, especially when contrasted with black, and the *Pac-Man* cabinet certainly sticks out from across any crowded arcade. Bold, cartoonish side art shows off Pac-Man and one of his ghostly pursuers, albeit in forms that are a long way from the art we recognise today. The bezel art plays off the in-game maze design, and the simple control panel consisting of a single central joystick and start buttons is inviting to all players.

Pac-Man's impact was such that the game and character have become emblematic of the Eighties and are now enduring pop-culture mainstays. Books were published on how to succeed at the game, top players gained fame for their achievements, and the brand was thoroughly merchandised with a tie-in cartoon, breakfast cereal and even a novelty single. The cabinet itself is part of that, too – over the years the *Pac-Man* cabinet has been recreated, miniaturised and turned into toys, alarm clocks and more.

Pac-Man fact

■ Pinky's behaviour suffers from a bug – if Pac-Man is facing in any direction other than up, Pinky will attempt to reach the space ahead of him. If Pac-Man is facing up, Pinky's target will still be ahead of Pac-Man, but four tiles left of where it should be.



STANDOUT MOMENT
Four to the floor

The relentless pursuit of the ghosts, followed by the tide-turning moment as you guide your hungry hero to a power pellet, is the core thrill of *Pac-Man*. But if becoming the hunter is an enjoyable moment of empowerment, more enjoyable still is the occasion in which you not only scarf down a power pellet, but manage to munch on Inky, Pinky, Blinky and Clyde in quick succession. Not only do you get a brief moment of respite, but the last in the chain will earn you 1,600 points, vital for topping the high score table and earning yourself some significant bragging rights.

SYSTEM SUPPLIED BY **ARCADE CLUB**



ULTIMATE GUIDE:

Toki

Back in the late Eighties and early Nineties, platform games were all the rage, but they were mainly found on consoles, so when Toki arrived in the arcades it really stood out from the crowd

Words by Kieren Hawken

Developed in 1989 by Tokyo-based arcade developer TAD Corporation, *Toki* was undoubtedly the company's biggest hit. The game was originally known as *JuJu Densetsu* (meaning *Legend Of JuJu*) in Japan, and the game was picked up in the west by US coin-op distributors Fabtek which chose to rename the game *Toki*. While the word JuJu has connotations related to African origins – notably as a spiritual belief system – Toki can be attributed as a Maori word for axe.



» [Arcade] The American football helmet acts like a shield, letting you sustain several hits before it disappears.

In the game's story, Toki was a once a tribal leader who was living happily on an island somewhere in the South Pacific. This all ends tragically when the beautiful Miho, a tribal princess who Toki is madly in love with, is kidnapped by the demonic witch doctor Vookimedlo. The wicked shaman takes Miho to a vast golden palace on the top of a volcano where he keeps her captive. He then casts a spell to transform all the human inhabitants of the island into various animals and beasts so they are unable to defend themselves against him. Toki himself is transformed into an ape, but Vookimedlo's spell doesn't work as planned and Toki retains all the knowledge of his former self. He also discovers that, as a result of the transformation, he now has special powers that include the ability to shoot projectiles from his mouth. Toki then sets off on a quest to defeat Vookimeldo, rescue princess Miho and undo the curse which has befallen his beautiful island. The intro to the game even reveals some of this story.

To reach Vookimedlo's golden palace, Toki must traverse six lethal levels that take in different parts of the island, including the jungle, deep lakes, icy caves and the lava spewing volcano itself. There's nobody who can help poor Toki, either, as Vookimedlo has turned all of Toki's former friends against him. There are two ways that Toki can kill these enemies: either by shooting projectiles from his mouth or jumping on their heads. Most of them require multiple hits and will fight back in different ways, such as launching

HERBAMO

SHARTOESI

CONVERSION CAPERS



COMMODORE 64

■ The only 8-bit computer version that ended up being released by Ocean, this C64 cartridge isn't particularly pretty but does a decent job of replicating the original. However, it is missing the full intro sequence, only has one music track and is missing an entire level.

LYNX

■ Arguably the best home port of the game, Lynx *Toki* stays incredibly close to the arcade in almost every regard. The graphics are excellent, the soundtrack is among the best on the Lynx and it controls really well. It's certainly not an easy game, though!





NES

■ Taito's 1991 NES port, like so many others on the system, makes quite a few changes from the original arcade game. The graphical style is quite different, some of the level maps have been modified and you now have a health bar making it much easier.

MEGA DRIVE

■ Subtitled *Going Ape Spit,* Sega's own Mega Drive version is more like a sequel rather than a straight conversion. While many of the main themes are carried over here, Mega Drive *Toki* has new level designs, a different power-up system and more stages in total, too.





ATARI ST

■ Converted by Ocean France the ST port is incredibly impressive indeed. In fact, it's pretty hard to find any fault with it at all as it features excellent graphics, a cracking rendition of the soundtrack and gets the original gameplay almost perfect.

AMIGA

■ You'd expect the Amiga version to be pretty similar to the ST, but actually it's clear to see that they were programmed independently. We wouldn't say this version is any better or any worse than the ST version, it just has a slightly different look and feel.





IPHONE

■ Perhaps the most obscure port of all is this one released by Magic Team for the iPhone in 2009. It's a pretty faithful reproduction of the game that rather unusually displays the game in portrait mode with a large virtual controller in the bottom third of the screen.

ATARI 7800

■ Until a few years ago it wasn't even known that an Atari 7800 port had been developed, and then suddenly this pretty much complete prototype showed up. This conversion is surprisingly close to the original and it's a real shame it never got a commercial release.



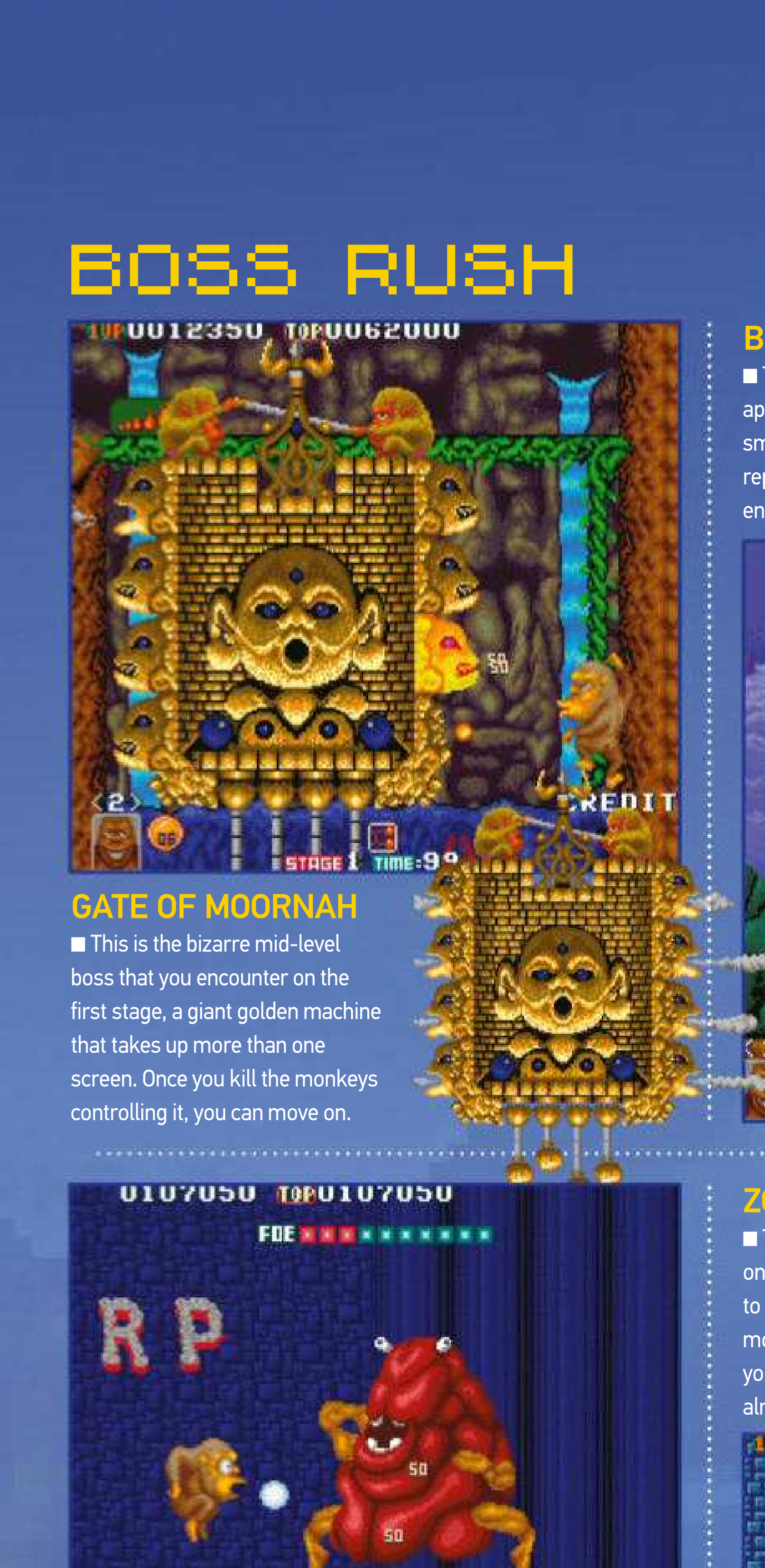
KILLER HARNAS

GARNIDARE

IVOR

TIMAGON

BOSS RUSH



GATE OF MOORNAH

■ This is the bizarre mid-level boss that you encounter on the first stage, a giant golden machine that takes up more than one screen. Once you kill the monkeys controlling it, you can move on.

BOLORAGOG

■ This giant Easter Island-inspired character appears at the end of level one and throws small apes at you (named Geeshergam) repeatedly until you manage to hit him enough times to kill him.





NEPTUNA

■ The inspiration for this mid-level boss is pretty obvious, what isn't so obvious is that you don't have to actually beat him. If you time it correctly you can simply swim over his head and get away.



MORGULVAR

■ Looking like a mutated California Raisin, all you need to do to beat level three's final foe is stay on the far left of the screen, shoot right at him and then jump when he swings his long limbs at you.

ZORZAMOTH

■ There's only one tactic that works on level four's antagonist and that's to crouch down and shoot his slow moving feet. Stop him moving and you'll win pretty quickly, otherwise it's almost immediate death for you.





BASHTAR

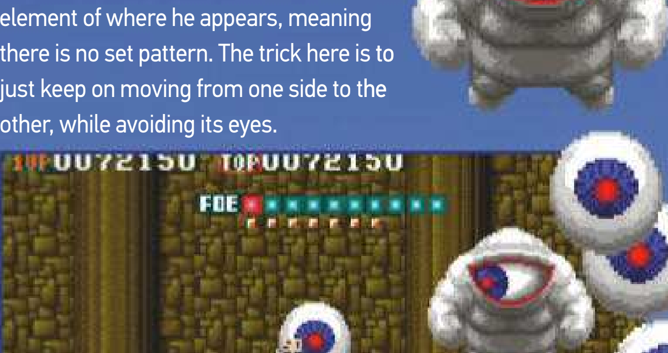
■ If you are going to beat stage five then you'll need to give Bashtar a heart attack. Duck or jump to avoid his flying limbs then get as close as you can to that pulsing organ and blast away.





RAMBACHA

■ The level two boss is much harder than you'd expect, mainly due to the random element of where he appears, meaning there is no set pattern. The trick here is to just keep on moving from one side to the other, while avoiding its eyes.





VOOKIMEDLO

■ The final boss first appears as an elderly wizard before transforming into an ugly beast. Keep shooting the body while avoiding the projectiles and you'll be transformed back into your human form.





» [Arcade] Apes love swinging on vines, but there's nothing fun about that deadly lava below.

their own projectiles or rushing towards our hero at high speed. Thankfully for Toki, magical items can be found strewn across the landscape that will aid him on his quest. Some of these improve his spitting capability, adding double or even triple streams of projectiles, while others include footwear that lets Toki jump higher, and an American football helmet that acts like a limited shield. You are also able to pick up fruit and coins, both of which improve your score, which can ultimately reward you with extra lives.

To reach his final destination, Toki must jump across crumbling platforms, swing on ropes, climb up vines and swim through rivers. Before each level you are shown a map of the entire stage that shows any potential hazards and tells you what to look out for (a similar map had appeared in Capcom's *Ghouls 'N Ghosts* the previous year). We do like how many things set *Toki* apart from similar titles of the time, including the variations of gameplay, which some argue verges on a run-and-gun at times, and the way certain power-ups can only be obtained by performing a very specific series of actions.

Given how successful *Toki* was in the arcades of the time, it was only natural that home versions would start springing up all over the place. It was UK coin-op conversion specialist Ocean Software that got in on the act first, and it started heavily advertising its home computer ports of the game in 1991. Handled by Ocean France, it was the impressive 16-bit Atari ST and Amiga versions that were first out the door. However, the three 8-bit versions suffered a range of different fates, with only the Commodore 64 conversion making it out the door. First, there

BELLZADOR

BUNGATARAS

ARMOREL KEMIN



Q&A D SCOTT WILLIAMSON

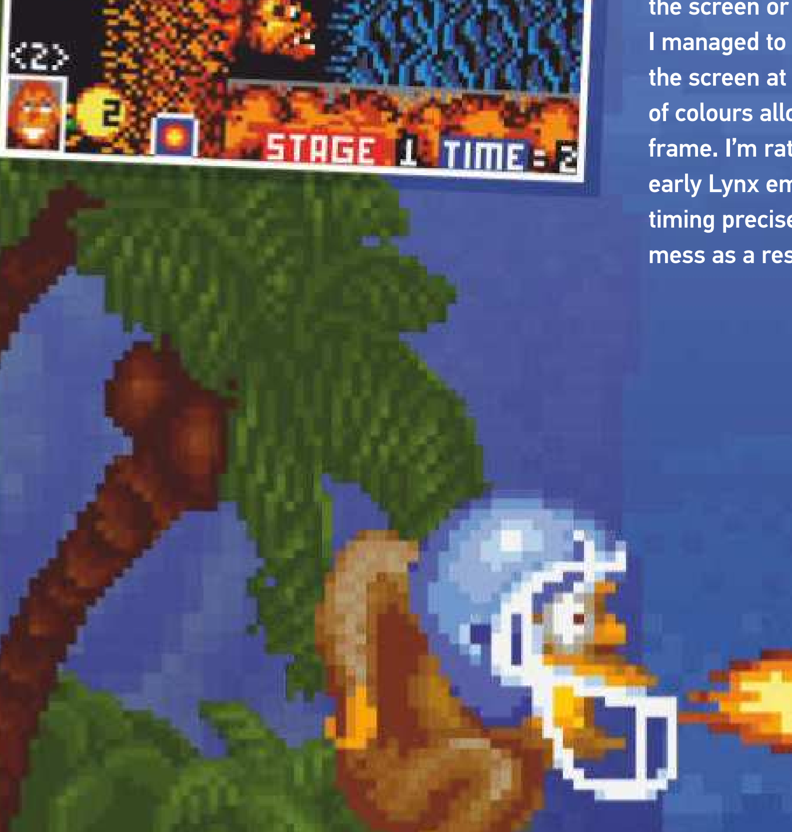
We sit down with the programming powerhouse to talk about converting Toki to Atari's Lynx

How did you end up working for Atari and landing the job of porting *Toki* to the Lynx?
Getting a programming job with Atari in 1987 was my dream job. I was originally hired to work on the Atari-badged Sega Genesis, but after that deal fell through I ended up writing *White Water Madness* on the still in-development Atari STe. I also wrote some digitised sound drivers and tools for 2600, 7800 and Atari 8-bit then Atari and Epyx came to an agreement on the Lynx. Everything about the Lynx was so new and amazing, I leaped at the opportunity to work on it and dug in deep. Atari gave me the title of head of developer support for the Lynx so I pretty much got to pick my own projects. I loved arcade games so it's easy to see why I picked *Road Blasters*, *STUN Runner* and *Toki*!

Why does *Toki* work so well on the Lynx?
Coin-ops were huge in the late Eighties and arcade games like *APB*, *Pac-Land*, *Hydra*, *Xenophobe*, *Road Blasters*, *STUN Runner* and, of course, *Toki* were real hot and you couldn't play anything like them at home. Well, until the Lynx came along with its unlimited scalable full-colour sprites, specialised scrolling hardware and advanced sound. It was able to bring those games home at a quality never seen before – and it was a handheld, too. There were some games on the Lynx that even the Genesis and SNES couldn't do and that was pretty exciting. The Lynx's hardware was just really well suited to arcade games and I think *Toki* proves that.

The graphics in Lynx *Toki* are gorgeous, how did you get them looking so good?
I employed another old CRT TV trick that I had also used in *Road Blasters* and *STUN Runner* called mid-screen palette switching. Without this technique, the Lynx can only display 16 colours on the screen at any one time. But I soon found that with some clever timer programming I could create an 'HBlank' interrupt that would allow me to change palette colours partway down the screen or on every scanline. I think I managed to get 48 unique colours on the screen at once, trebling the number of colours allowed on the screen in one frame. I'm rather proud of the fact that the early Lynx emulators did not handle this timing precisely and they were a glitchy mess as a result!







was the 128K ZX Spectrum port, which was previewed in the July 1991 issues of both *Crash* and *Your Sinclair*. Coded by Special FX, it's unclear why this version was never finished, but it's likely the dwindling market for ZX Spectrum games is to blame with all of Ocean's last releases for the machine taking place in that year. The Amstrad version, like the rival Commodore 64 port, was due to be a cartridge game to take advantage of the newly released GX4000 console. Allegedly, the team completed one level of the game and then ran out of ROM space, but it's far more likely that the failure of the console put paid to this port. The C64GS cartridge also had the advantage of being compatible with the home computer, while Amstrad didn't have the same luxury. The CPC+ range of computers had also failed to set the world alight in the midst of more powerful competition and these cartridges couldn't played on the original, and technically inferior, CPC models.

Then there are the console ports of *Toki*, which again provide us with an interesting set of stories. The first two versions to arrive in 1991 were Taito's NES translation and Sega's Mega Drive remix. The first of which tried to stay fairly close to the arcade game while the second took a totally different route altogether by giving a completely different game that just followed the same themes. The 1992 Atari Lynx port came next, programmed by D Scott Williamson, who also did the

WOBALIN



» [Arcade] The most powerful power-up that you can find in the game is the lethal fire breath.

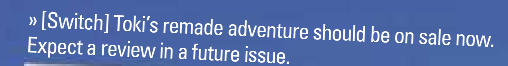




» [Arcade] The jungle level features some of the most annoying and hard to kill enemies in the game.

highly impressive conversions of *STUN Runner* and *Road Blasters*, it stayed remarkably close to the original source material and maintained the Lynx's reputation as a handheld arcade machine. It later turned out this wasn't the only version Atari had up its sleeve, however, as Images Software were also coding an Atari 7800 conversion, that was found and recovered from a hard drive in 2014. There are several things that are peculiar about this: first, the 1993 copyright date, when all 7800 production had ceased the previous year; it was also PAL-only, despite the US being the system's most popular market; and finally, the port seems to be pretty much complete. It's been speculated that perhaps this was part of a planned 7800 relaunch as a budget console, a bit like the Atari 2600 Jr, along with other big name titles such as *Rampart*, *Steel Talons*, *Pit-Fighter* and *Road Riot 4WD*. We might never know the truth, but we should all get to purchase and play this highly impressive conversion very soon thanks to homebrew and prototype publishers Beta Phase Games.

Another lost version of the game is the one announced for the PC, PS3, Wii and Xbox 360 back in 2011. This remake of *Toki* was being programmed by Golgoth Studios and after missing its release date it was never heard of again. The reasons for this cancellation are unknown. Fans eager for a *Toki* remake don't need to fret, though. Microids is the latest company to take up the mantle, and this much-awaited remake should finally be out just as you get to read this very article.


» [Switch] Toki's remade adventure should be on sale now. Expect a review in a future issue.



TOKI REMASTERED

Pierre Adane and Philippe Dessoly are part of the team at Microids which is responsible for the new Nintendo Switch remake

» Pierre Adane (top) and Phillipe Dessoly (bottom) are big fans of *Toki* and both worked at Ocean France.

Do you know what happened to the Xbox 360 version that was first announced back in 2009?

PA: Only part of the first level was completed. It was developed on Unreal blueprints and sadly there were some inner struggles between the guys that led to a standby position.

Why remake *Toki*? Were you fans of the original arcade game?

PA: I was a big fan of *Toki* from the very beginning. When the original game released in arcades I was working at Ocean France where we met. By chance, *Toki* was one of the games adapted by us for the Atari ST and Amiga. I was working on *Pang*, so I didn't work directly on *Toki* but I had the pleasure to follow its development. When the opportunity of developing a new version showed up, I was immediately thrilled by the idea. Furthermore, working again with Philippe was a great pleasure.

PD: I also discovered *Toki* at Ocean France, I was already a big fan of arcade games but I had never heard about *Toki*. I had just finished the game *Ivanhoe* when I started to convert arcade games. Starting with *Toki* was a great opportunity and I have spent many hours playing this game! When I was offered the chance to work on *Toki*'s remake, I immediately said yes! I knew that I would be able to improve it with my own style, especially working again with the *Mr Nutz* team (Pierre and Raphaële Guesqua).

What technical challenges during development have you encountered?

PA: Remain the most faithful to the original as possible.

PD: The most technical challenge is the time spent! Making the design alone is very long, time has changed and the way we make videogames has changed, too. I had to check that nothing was missing and completely recreate all the characters and environments.

Have you made any notable changes or revisions from the original for this remake?

PA: The visual aspect is the most important evolution in this version.

PD: I wanted the game to look like a cartoon, so I started to redesign all the characters in that way, then I created environments and then, of course, I redesigned the animation as a cartoon.

Why choose to debut the game on Nintendo Switch and are there any plans to release this remake on other platforms?

PA: We naturally choose the Nintendo Switch because it is perfect for this kind of game. The ease of use of this device fits perfectly with the game's spirit.

PD: As Pierre said, the Switch appears is perfect for this kind of game. I really hope we are able to adapt *Toki* to other platforms too, but it is up to Microids to decide.

KATYEROWS





SHOSHANU



» PUSHING THE LIMITS

Teenage Mutant Hero Turtles

Given the popularity of the cartoon, could the humble Spectrum handle this behemoth franchise?

» **PLATFORM:** ZX SPECTRUM » **DEVELOPER:** PROBE SOFTWARE/IMAGE WORKS » **RELEASED:** 1990

The short answer is 'yes'; and the challenge was taken on by the hands of just two men. Not just any old duo, of course: it was now game industry legends David Perry (*Earthworm Jim*) and Nick Bruty (*MDK*) who handled this version of our green heroes' first foray in the world of computer games.

What these two coders have managed to achieve here is incredible. Though it lacks a soundtrack, in terms of looks and size, this is a game that mirrors that of even its NES counterpart. All of the levels you find from the other versions, from navigating the streets, to the action of the sewers and escapades underwater, are all here for you to enjoy.

There are many missions for you to complete, including rescuing various kidnapped friends and accomplices, namely news reporter April O'Neil and your master Splinter, along with undoing other attempts to take over the city. You'll probably guess that the Turtles' main enemy Shredder is behind these, with his sidekicks Bebop and Rocksteady on hand to do the dirty work, along with his Foot Clan.

The game is split into two main parts: a top-down view where you navigate your way around the area to find various sewers and warehouses to enter, and then upon entering each room or sewer, you have a side-on view of the action. You'll find a lot of goings on in the sewers as you take your first plunge underground with many mutations to be avoided, from giant eyeballs, oversized bees and some angry looking giant frogs. You'll need to be quick with your Ninja reflexes to avoid getting caught.

This is an aesthetically pleasing game, with its large sprites and scrolling animation. It really is an achievement that its 48K limit somehow hasn't restricted it and it proves the Spectrum can do amazing things in the right hands. And don't be mislead because of the kid-friendly subject matter here: *Teenage Mutant Hero Turtles* is as good-looking as it's going to get on the Spectrum, and it runs as smooth as the underside of an amphibian. If you were lucky enough to pick this game up in its original box release, you will remember getting a set of stickers, badge and poster for free, too. *



HOW IT PUSHED THE LIMITS. . .

Goodbye colour clash
There's no sign of any monochrome graphics here, every element of the game is full of colour and there is no clash to be found. Quite how this was avoided in such a colourful game we don't know, but it looks great.

Crisp large sprites
Having clashless colours on the Spectrum is enough to win us over, but with this game it doesn't stop there. Bold colours and large sprites are plentiful here, with very high detail and they're a treat to look at.

Lag-free
Given that the Speccy is having to deal with such impressive graphics, you'd think this would slow the game down. But not only do our Turtle heroes run fast, the game keeps up the speed even with a very busy screen.

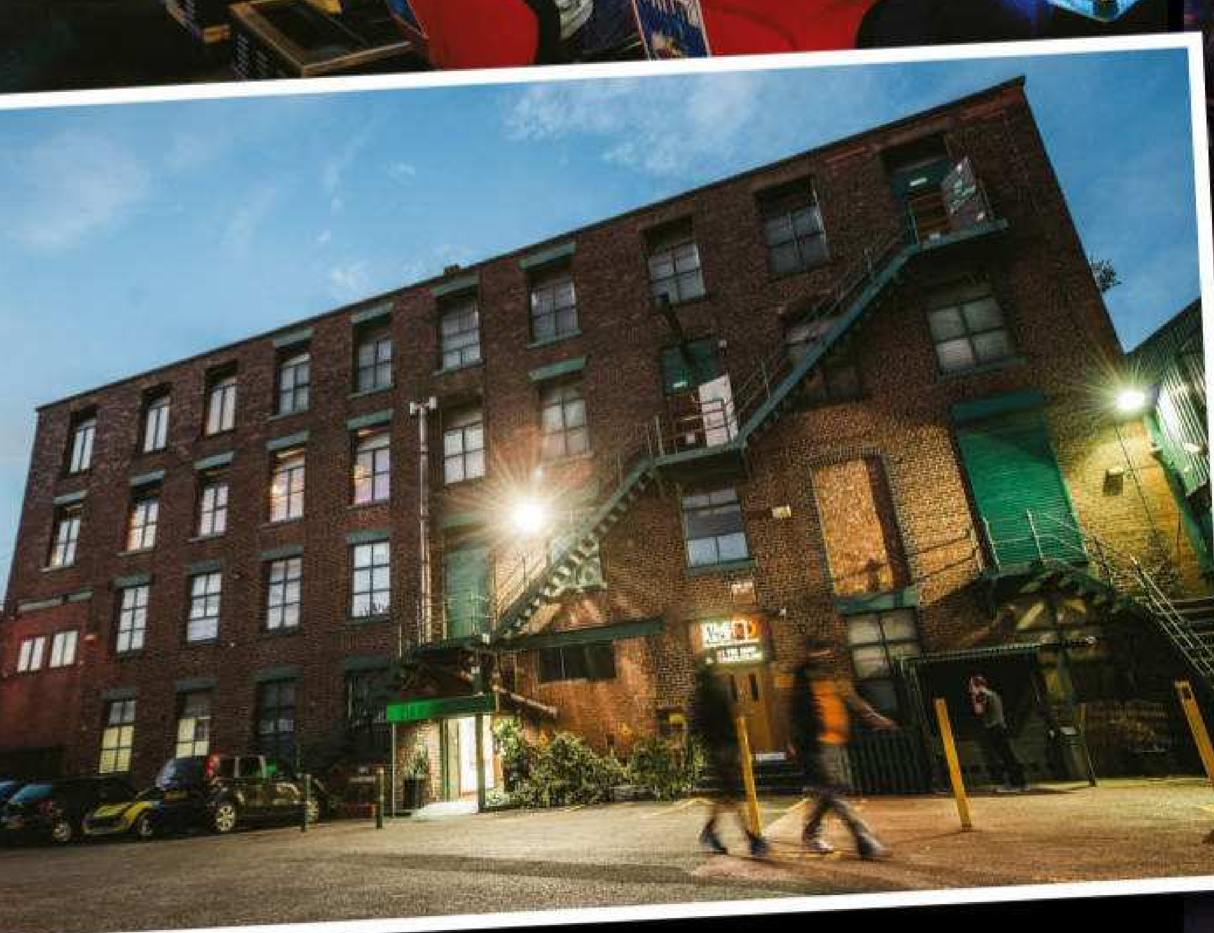
Smooth 3D scrolling
The way the game moves as you make your way from one side of the screen to the other is a beauty. Walled backgrounds slowly scroll as you run, fight and jump around until you reach your goal.



THE MAKING OF ARCADE CLUB

Europe's biggest arcade is an incredible place for any fan of retro games to visit - and running it is an incredible undertaking, too. We speak to founder Andy Palmer to find out exactly how it's done

Words by Nick Thorpe





The first time you visit Arcade Club, it almost feels like you're making a crazy discovery. That's partially because the building it's housed in is nothing exciting – Ela Mill was previously a factory making handbags and other leather goods, so other than some signage and a few players smoking outside, there's little to suggest that there's an arcade inside. But once you make your way inside, pay your entrance fee and head up a few flights of stairs, the magic hits you *hard*. As you pass the cocktail cabinets and head into the main arcade, a sit-down *Ridge Racer* greets you on the left. Beyond that you're flanked by rows of Electrocoin Goliath cabinets as you make your way towards the back of the room, each cabinet containing a classic like *Golden Axe* or *1942*. In an adjacent room, there are PCs ready to go for *Minecraft* sessions. Downstairs, you'll find a variety of Japanese music games like *Sound Voltex* and *Groove Coaster*, as well as pinball tables, consoles and more retro arcade games. If you've ever had any interest in videogames at all, Arcade Club is a thrilling place to visit.

Of course, a collection of cabinets spanning over 40 years doesn't come together overnight. "We had a chain of computer shops and we noticed there was a turning off in the industry," says Andy Palmer, founder of Arcade Club. "We had some arcade machines in the shop which I'd been collecting for a while, and I was wondering what to do with them." After toying with giving away tokens to shop customers and a coffee shop idea, Andy hit upon the first version of the Arcade Club model. "We set up 30 machines in the shop to see how it would go, and we charged £10 for four hours on a Saturday. For that they got a free can of Coke and a biscuit thrown in as well."

The idea soon took off, necessitating increasingly spacious venues. "BBC's *Collectaholics* got involved which kind of catapulted it into the stratosphere, and we decided to move to the unit which was 100 machines. After that everything was going fine, no problems. But there was a major problem with parking, we had no parking facilities around the warehouse where we were, and that caused major problems with the locals – it just wasn't good. And once we reached the capacity of 100 people it was one in, one out like a nightclub. People didn't seem to mind it, and they quite liked the exclusivity." Still, Arcade Club was growing and it needed a new home. "It's very difficult finding the amount of space required at a good rate that the business model will actually sustain, because if you go into a town centre you've got parking problems and you've also got massive business rates, you've got service charges – you've got a lot of stuff on top which means you'd have to put your door prices up. You've got to be very careful about the pricing model." Ela Mill was eventually picked as a suitable location, but it didn't come without risk. "We threw caution to the wind a little bit, we didn't have a lot of money when we came to Bury," Andy admits. "We actually sold – which I regret now – an *Out Run* deluxe just to get the deposit together."

With all of Andy's prior knowledge, we wonder if there was anything he hadn't factored in. "Electricity," he says. "We've had to do so much with the infrastructure of the mill. We're ▶

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» As well as gaming, Arcade Club offers food options, and you can even enjoy your meal on a cocktail cabinet.

drawing eight 80-amp feeds, and there's that surge of turning the machines on – we don't want to have to turn them on individually because that would take far too long. We've spent many, many thousands just on wiring and infrastructure." Additionally, since a business of Arcade Club's kind is somewhat unusual, some people struggle to grasp it. "It's very difficult to get it through to the council sometimes that it's not a gambling arcade – there won't be any fruit machines – because they don't have a videogame arcade category anymore," Andy says. "But we had a great guy on planning who loved arcades, which helped – he actually said, 'Do you have *Tron*?' That was the magic key."

The roots of the Arcade Club games collection, which now numbers over 250 games, can be found in Andy's own long-term collecting hobby. However, the selection has been balanced for quality and commercial appeal. "I targeted cabs, some of which I had anyway, like *Space Invaders*, *Pac-Man*, *Galaxian*, *Star Wars*, *Robotron* and *Defender*. I just went for triple-A titles, the best of the best, because I thought if we're gonna do it, we've got to do it with triple-A titles." The long-term build-up of Arcade Club's collection has also been a major factor in the quality of the games available, according to Andy, simply on financial grounds. "If I was starting it now, straight away I'd run into a brick wall of, 'It's £1,000 for *Pac-Man*, it's £1,600 for *Donkey Kong*' – there's better ways to make money nowadays with an investment. Everything's just gone ridiculously priced."

Despite that, where there's demand, Arcade Club adds capacity. "If say for instance Pac-Man or Space Invaders is particularly popular, even if people can't get past the first few levels, we'll add more cabs. We did have three *Defenders* in here at one point because it was particularly popular with 40-somethings that wanted to relive their youth." What's more, there have been very few games that have escaped once being put on the Arcade Club most-wanted list. "*Discs Of Tron* and *I, Robot* were two difficult ones but I've got a source for those now, they're buried in a friend's storage but he's said once he gets to them they're ours, which is fantastic." Still, certain games aren't feasible to run. "Everybody keeps saying about the R-360, but the problem with that is that it needs X-raying every six months or so to look for microfractures in the subframe and stuff. They were a bit of a nightmare to keep going back in the day, and I think the duty cycle at Arcade Club would mean it would potentially be broken more than it would be working. It also needs an attendant, which means it needs to be fully staffed, which needs a wage."

One interesting facet of Arcade Club is that although it has a huge roster of retro arcade games, it is not exclusively retro-focused. "I think people will get bored of *Pac-Man*," says Andy. "A lot of people will turn up, play *Pac-Man* and *Space Invaders*, realise how hard they are, be put off and then never visit again. For those sorts of people you need to do something different, so we have Japanese games, VR, PCs, consoles – we cater to what the audience wants.

Most of the newer arcade games found at Arcade Club are Japanese games, so you're unlikely to find anything that you could easily run across in your local bowling alley. "We actually fly out to Japan, we source everything ourselves," says Andy. "We want to be on the cutting edge all the time." That's something that can't be achieved by sticking exclusively to what's available domestically, which Andy attributes primarily to the amusement industry's lack of focus on videogames. "It's always redemption, the ticket machines now. The industry's going that way and I feel it's a bit of a mistake, because they're just aiming for kids with these tickets, it's a little bit manipulative and it's not in the spirit of gaming, it's in the spirit of money," he explains. "I know that's what business is there for but at Arcade Club, we have to make money, fine, but I feel like we can do it in a fair way. It's hard to balance, but I think I'm doing it."

The business end of things is an interesting subject – conventional wisdom says that the arcade business isn't the place to be today, and Andy has said himself that there are better ways to make money. "It's not a booking system at Arcade Club, which means you're never guaranteed on your numbers. Summer was hard for us, we had the World Cup and the heatwave together, so we saw a massive dip in numbers," Andy confesses. "Luckily we're structured so we could get through that, but we wouldn't have got through that if it had lasted three months. We would've had major problems.

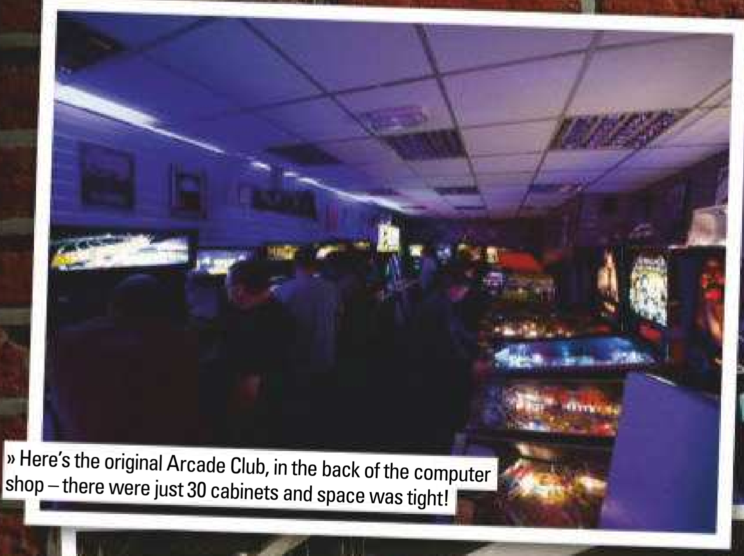


While the heat isn't something many would seek out in an arcade, Arcade Club does attracts a number of players used to heated competition. "We have a lot of record holders here – CharlieFar, David Lyne he's called, he's the *Galaxian* world champion and he's the best player I've ever seen in my life. John Stoodley comes here quite often, he's one of the world's *Pac-Man* champions. Shaun Holley from the Ten Pence Arcade podcast, he does a lot for the community. We have MBA, Manchester Battle Arena which is our fighting community – it's all to do with gaming across all genres and all ages, that's what Arcade Club's about."

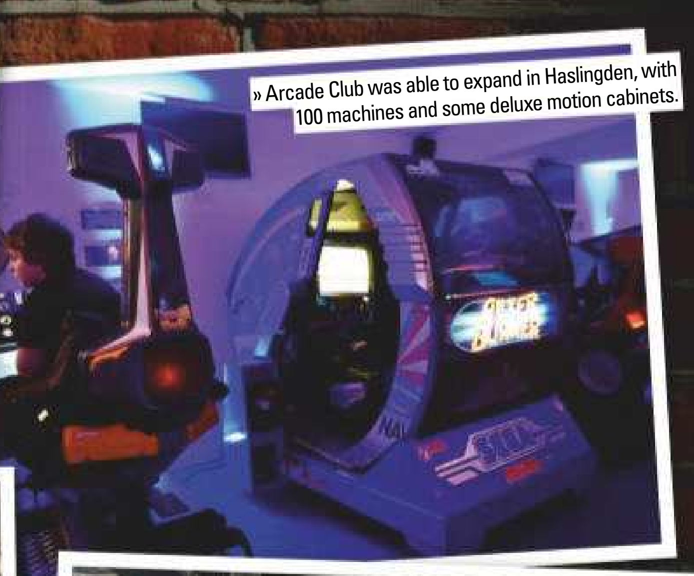
Speaking of all ages, Arcade Club is family friendly but it requires adult supervision for all children under 16. "Yeah, it's quite strict actually, very conservative," Andy admits. "The reason we did that is we didn't want a gang of kids potentially causing issues. I want everyone to be safe – and the other thing is we don't know everyone's medical history," he continues. "So if somebody drops off a group of 12-year-olds and one of them has a fit, falls or has an allergic reaction to something in their food, we won't know what's going on there and it could potentially be life-threatening. And the other thing is, I'd hate for someone to turn up five hours after dropping their child off and say, 'Where's my child?' because they've just gone out of the front door, because you can come and go as you please. I don't want anyone ever to go, 'You lost my child.'" Arcade Club also runs adults-only sessions

BUILDING THE DREAM

Here's a quick pictorial history of Arcade Club, from the original shop to the latest developments



» Here's the original Arcade Club, in the back of the computer shop – there were just 30 cabinets and space was tight!



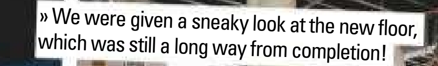
» Arcade Club was able to expand in Haslingden, with 100 machines and some deluxe motion cabinets.



» Ela Mill was a bit of a bomb site to begin with, and it required a whole lot of clearing up.



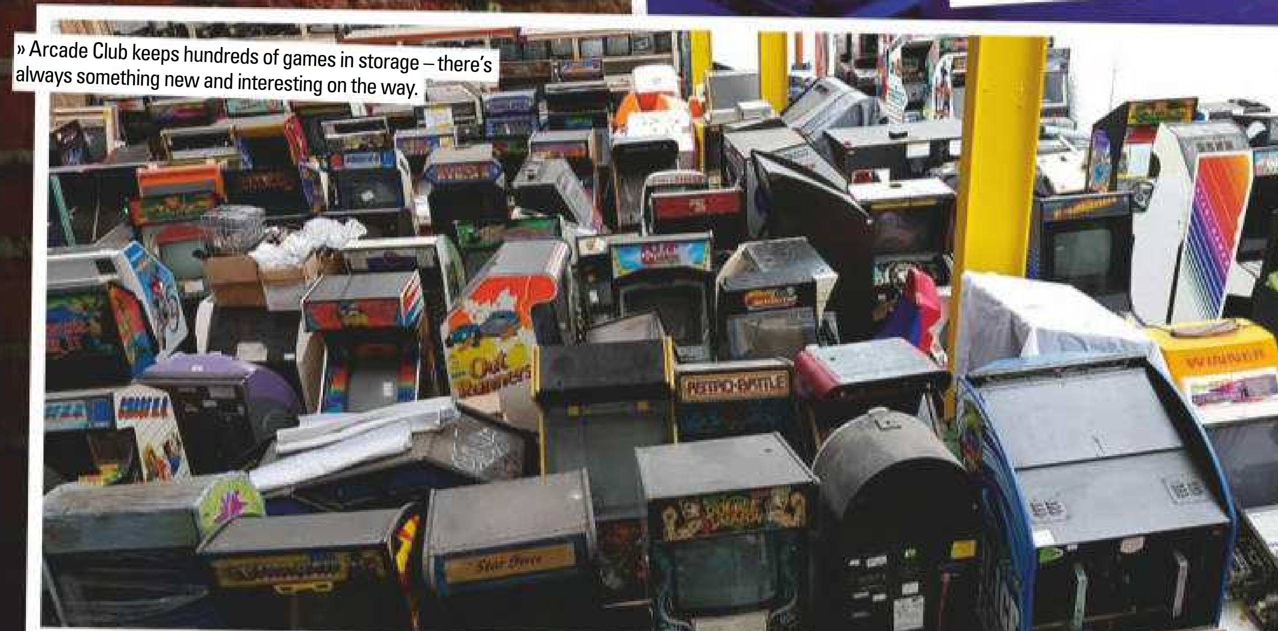
» Here are the machines moving into Ela Mill, with the engineering room being built on the right.



» We were given a sneaky look at the new floor, which was still a long way from completion!



» This is a previous layout for the completed second floor.



» Arcade Club keeps hundreds of games in storage – there's always something new and interesting on the way.



DON'T TRY THIS AT HOME

Some games are best experienced in the arcade, or simply impossible to play at home – here are five that Arcade Club offers



IKARI WARRIORS

■ Although SNK's Eighties hit has been converted to home platforms and often quite well, the game's rotary joystick has never been replicated, which makes aiming significantly more difficult. The cabinet at Arcade Club features the correct controls, allowing you and a friend to blast the baddies properly.



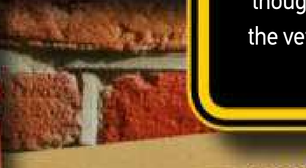
PANIC PARK

■ This offbeat Namco game gives each player a lever with which to control a variety of minigames, some of which vary by season. Because the levers directly clash with each other, you'll quite often physically jostle for position with your opponent in a way that would be impossible to replicate on console.



ICE COLD BEER

■ Taito's mechanical game requires you to lift a ball, using a metal bar, into a target hole indicated by a light. It's a game with a simple aim that proves devilishly tricky to actually master – though we've seen video evidence of the veteran coder Jim Bagley making it look like child's play.





CHO CHABUDAI GAESHI! 2

■ That title roughly translates as *'Ultra Overturning A Table In Anger! 2'* (according to Google, that is) and that's your goal. The game places you in an anger-inducing scenario, then requires you to slap your hands on the table before overturning it violently, scoring you on the destruction you cause.

QUICK & CRASH

■ This is a shooting gallery game which uses real, physical objects – and as a result, there's a real pleasure to be taken in the destruction that occurs as you blast a mug to pieces. *Time Crisis II* on PlayStation 2 features a simulation of the game, but it's just not the same.



(with 16-to-17-year-olds allowed as long as they are with an adult) on Thursday and Friday.

So what does the future hold for Arcade Club? A new location has just been announced, based in Kirkstall, Leeds and due to open in early 2019. We also discover that a third floor is in the works for Bury. "We've found that the Japanese floor can get a little bit chaotic, so what we're doing is we're going to turn that floor into a dedicated Japanese floor, drop the VR and PCs down a floor and set up a more loungey console-type area," says Andy. "I've always wanted to do a console area for people but if you can't keep on top of it, people tend to start resetting things. It needs stewarding, so to speak, it needs somebody there to make sure everything's okay." Additionally, it will free up space for some of the more popular attractions. "We find that VR can be a little bit queuey sometimes, especially on a Friday night, so we need to add more," says Andy.

How about long-term plans – Arcade Club is already the biggest arcade in Europe, could it become the biggest in the world? "I don't know if we can achieve that, but hopefully we can," says Andy. "We have hundreds of machines in storage, and we have literally about 50 machines in containers winging their way over from America and Japan. We are looking towards the future and we want to make Arcade Club bigger." How about more locations? "One day – maybe – I'd love it if we could possibly open about four or five across the UK so everyone could enjoy it," Andy replies cautiously, "but I have to make sure the infrastructure is there first, and that we're able to keep on top of repairs before we could do that."

Regardless of any plans for future expansion, Arcade Club is already a unique and exciting venue for any gamer to visit – and when all is said and done, that's the thing that Andy finds most satisfying about the business. "It's never been about the money, it's just about having a fantastic time and leaving something, once I've left this mortal coil, that was worthwhile. That's very important to me. I don't want to just have a big bank account," he says. "A lot of people said it wouldn't work, and I'd end up with a very expensive lesson in what businesses not to open, but fortunately it did – people supported us and just love Arcade Club for what it is, which is a great value day out that the whole family can enjoy."

EXTENDED PLAY

Andy Palmer explains the work involved in keeping classic machines alive

Was the maintenance of the arcade machines something you were knowledgeable of and prepared for before opening Arcade Club?

It's something I've tinkered about with over many, many years. There's people out there that are far more knowledgeable than myself. We have a fantastic TV engineer, we have a great engineer with Mark as well, and we're taking on some more engineers soon. But the maintenance side of it I wasn't quite ready for, because there is a lot more maintenance than anyone would think on these machines. A lot of the time you'll pick up one of these machines and it's 20-30 years old, and either it's not been switched on for 20-30 years or it's been switched on infrequently. Once you ask them to do a duty cycle of 14 hours, that's the real test for the machines, especially the monitors, and they will fall down. Whenever we buy a machine off a collector, very rarely they'll last three or four hours without something going wrong because they're not used to anything like that, they're used to doing 20 minutes in someone's house. So we do a lot to keep them going.

What sort of things would those be?

We recap – we rebuild absolutely everything, at great cost sometimes because we will have to replace parts which are very difficult to source, or we'll have to salvage parts off a machine we bought that's maybe not in the best aesthetic condition. We imported a *Lunar Lander,* for instance, from America, which had shocking water damage just so we could repair our own *Lunar Lander* and get it up to spec. We got a spare board out of it and a spare monitor, but unfortunately the actual wooden shell was a write-off – you would touch it and it crumbled.

So that's something you have to do sometimes, you have to sacrifice a machine to save another machine.

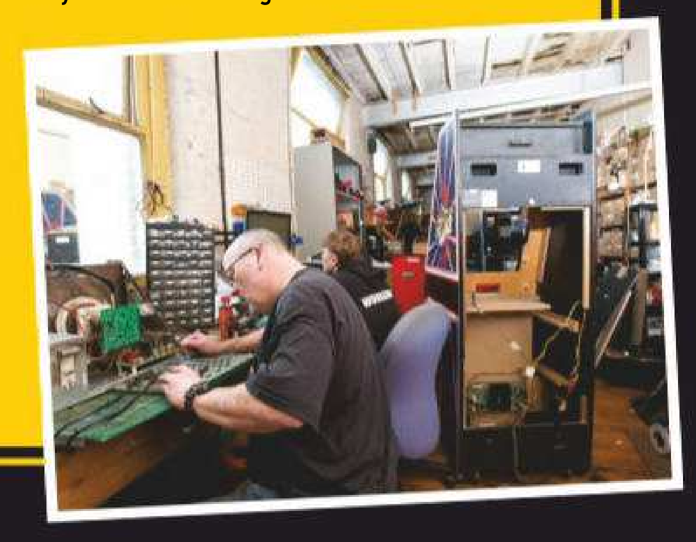
Is there anything you've had to take off the floor because it couldn't be repaired?

Mostly modern stuff is the major problem, because it's a lot of surface-mounted components. A lot of the older stuff's quite easy to repair, like *Pac-Man*, you can repair that forever believe it or not, because the components are large through-hole components. If you looked at the circuit board, you'd recognise resistors, capacitors, chips etc as a classic design for a circuit board. But if you look at a modern one, the components are so small that it's very hard to tell capacitors from resistors, and the board's lacquered over as well.

You've got two full-time technicians. How did you find them?

Julian, our CRT tech, actually came into the shop when we still had a few of the computer shops left, and came in for a networking job. On his CV it said he used to work at a TV repair shop, so I interviewed him at the arcade and he repaired three monitors that me and Mark had been Googling and going through Randy Frum's flowcharts trying to fix. But because he knows the theory of monitors and it's in his blood, if you like, he was able to suss out exactly what was going on without using those flowcharts. So I said, 'Would you like the job? It's not in the computer shop, it's in the arcade,' and he was very grateful that his knowledge that he thought potentially was lost forever – he thought nobody would ever want to repair a CRT again – is being used. He's got good, solid electrical engineering skills, too, so he can suss out most circuits, power supplies, etc and he's just started to do PCB repairs too, so he's starting to move into that side of things which is fantastic.

Mark is actually *Gauntlet* world champion, he's been with us a bit longer than Julian, and basically he's a hobbyist-turned-tech [engineer] but he's very, very good. Now he can repair monitors, he services a lot of the machines, he's taken on board repair as well. And they're into it, they love what they do, which is what you'd ask of any employee and it's what everybody wants in life, they want to do something positive and they want to love doing it.



THE MAKING OF THE



WE CAUGHT UP WITH ADVENTURE GAMING PIONEER SCOTT ADAMS IN FLORIDA, ONCE THE HOME OF HIS SOFTWARE COMPANY ADVENTURE INTERNATIONAL, TO TALK TEXT AND PAINS IN THE NECK

Words by Paul Drury

Scott Adams leans across the table and eyes us over his glasses. "I have to tell you before we start talking about *The Count*, this was a game I made before I became a Christian and it's not a game I would write today," he says, rather unexpectedly.

We are a little taken aback that our favourite of Scott's superlative text adventures now sits uncomfortably with his faith, but then the game does trap the player in a castle in a 'kill-or-be-killed' struggle. Is he still happy to revisit this dark episode in his game-writing past? "Oh, but I did enjoy writing it back then," he says, with a reassuring laugh. "Of course, it featured Count Dracula, but as with all my games, I didn't want it to be horrifying or scary. I wanted humour! That's how I approached it. And, you know, you're not the only person who has told me it struck a chord with them."



» [Apple II] Bookings at the castle have been affected by several negative reviews on TripAdvisor.

Written right at the end of the Seventies, *The Count* was the fifth of Scott's text-based titles, which had begun with 1978's *Adventureland*. Each of those early games took around a month to develop and though they used the same two word 'verb noun' parser, allowing you to 'TAKE SHEETS' or 'GO WINDOW', Scott was always looking to add new features to his game engine and offer a different experience to the plucky adventurer. For this vampiric tale, it was all about time.

"I wanted to tell a story that the player was part of but I wanted it to be something that didn't happen all at once," he explains. "Dracula is a creature of the night, the player is a creature of the day, so I was going to need multiple days to tell the story – a day and night cycle. And the player has to be careful what he does during that cycle."

Set over three traumatic days, the player would awake each afternoon and must explore their surroundings and gather the requisite equipment to slay their blood-thirsty host. Some puzzles simply require using the correct item in the right location but others



» [Apple II] That flagpole looks sturdy enough to hold your weight, surely.

are spread out across several days, forcing you to plan ahead. Key events happen on different days and certain actions can only be carried out at night, which means you're going to have to find a way to stave off sleepiness. There's a palpable tension when the words, 'It's getting darker,' and, 'You're getting very tired,' appear on screen, an ominous reminder that the Count will soon rise, and you are on the menu. "I was giving them fair warning," protests Scott. " I wasn't trying to make the player feel tense but it was interesting how, in doing that, it brought out that emotion."

Instilling fear, wonder and intrigue through a few well-chosen words is, of course, the art of storytelling, and it impresses us immensely how, 40 years on, the scenes in *The Count* are still so vivid in our mind's eye. The cramped dumbwaiter, the dark window you spy even as you plummet to your death from a fragile flagpole and the pitchfork-waving mob outside the castle grounds are all rendered in the most powerful graphics engine ever created – your imagination.

"That's what I was counting on," smiles Scott. "Players knew the *Dracula* and *Frankenstein* stories and could picture angry villagers. I trusted them to know what was going on and be a part of the story. Because I had so little memory [for the text], I couldn't go into great depth, so I had to use ideas and imagery that everyone could relate to. I remember the children's story *Toby Tyler,* of this kid tying his bedsheets together and climbing out of his bedroom window to run away and join the circus. I knew people could picture that. I was telling a story with them, not to them. I wanted them to feel part of it, like it was their story as much as mine."

Scott's genius was in creating a believable setting, a solid base for players to add their own layers of texture,



» [Atari 8-Bit] Black Sabbath's debut album. Wait… sorry, no, it's the Game Over screen.

and then creating puzzles which flowed naturally from their surroundings. Of course an old kitchen would have a dumbwaiter for the servants to send meals up to the master and that could become a sneaky means of transport. Of course a castle would have a dungeon with iron rings to secure unfortunate captives and they could become useful anchors when it came to exploring that dark pit. "When I'm writing a game, I try to envision the setting in my mind," says Scott, "and populate it with items that belong there. Then I think how I can use them in a puzzle. It's very organic. I never storyboarded a game. Sometimes I had no idea where a game was going."

This process of allowing the puzzles to grow out of the setting was fostered through regular playtesting from a circle of friends and family. Scott would create a framework, perhaps a few rooms and a selection of items, then stand back and watch them play, not just noting down any bugs but paying careful attention to how they tried to tackle problems. "It was reiterative ▶



THE ADVENTURE CONTINUES

Though Scott never fully left adventure game writing behind – since the demise of Adventure International in 1985, he has produced several text adventures, including a sequel to *Pirate's Island* – in January 2018, together with his wife Roxanne, he launched Clopas LLC, which now has a dozen employees. Their first project is *Escape The Gloomer*, based on the book *Mossflower*, the second in the *Redwall* series. "It's been an incredibly fun ride," says Scott. "The game is a 'Conversational Adventure ™', which is a fusion of standard text adventures (puzzles), interactive fiction (heavily story-based) and some extra special bits we've added. It's fully voice acted, music scored with sound effects and contains chapter illustrations like a book. It's designed to be fun for the hardcore puzzle gamer and those who don't really play games at all." The game should be available on Steam for PC and Mac as you read this, and Scott adds that mobile versions are planned, plus they've been toying with the idea of producing a version for Amazon's Alexa using voice controls. It's an intriguing concept and one that shows how eager Clopas is to attract those new to the joys of text. "One of our playtesters said she never plays games and only watches others play," he says. "She spent days at our office playing through it. She was hooked!" It's good to have the Chief Adventurer back.

GREAT SCOTT!

More adventures from the mind of Scott Adams



ADVENTURELAND

1978

■ Inspired by the original *Colossal Caves*, which Scott played on a mainframe computer at work, his debut release was the first to bring text adventures to the home micros of the day.

PIRATE ADVENTURE

1978

■ 'Say YOHO' and suddenly you're elsewhere…' Scott's second adventure introduced a quest element as you leave London, build a ship and head for the mysterious Pirate's Island.





GHOST TOWN

1981

■ Set in an apparently deserted settlement in the Old West, this is one of Scott's favourites, and also one of his toughest challenges, as you try to locate treasures and avoid jail, or worse.

THE SORCERER OF CLAYMORGUE CASTLE

1984

■ The 13th of Scott's 'classic' adventures, this adds some interesting spellcasting to the treasure hunt.





» This ad appeared in *Personal Computing* magazine in March 1981. Scott: "My friend Tony Brentlinger posed as the pirate. He actually had a gold front tooth and that is his own facial hair, too."



IN THE KNOW

» PUBLISHER: Adventure International

» DEVELOPER: Scott Adams

» RELEASED: 1979

» PLATFORM: Apple II, Atari 8-bit, VIC-20

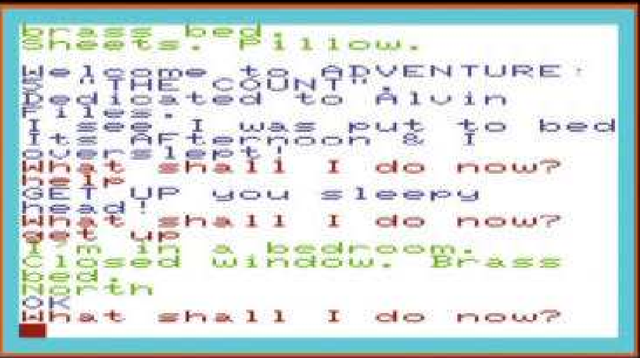
» GENRE: Text adventure

DEVELOPER HIGHLIGHTS

ADVENTURELAND
SYSTEM: TRS-80
YEAR: 1978

SPIDER-MAN
SYSTEM: C64
YEAR: 1984

RETURN TO PIRATE'S ISLAND 2
SYSTEM: PC
YEAR: 2000



» [VIC-20] *The Count* is dedicated to Alvin Files, who reverse-engineered Scott's game engine and wrote *Pyramid Of Doom*.

playtesting," he smiles. "It was extremely important to have multiple people play it and sometimes they'd do things and I'd think, 'Wow, I hadn't thought of that! So what should happen if they do that next time?'"

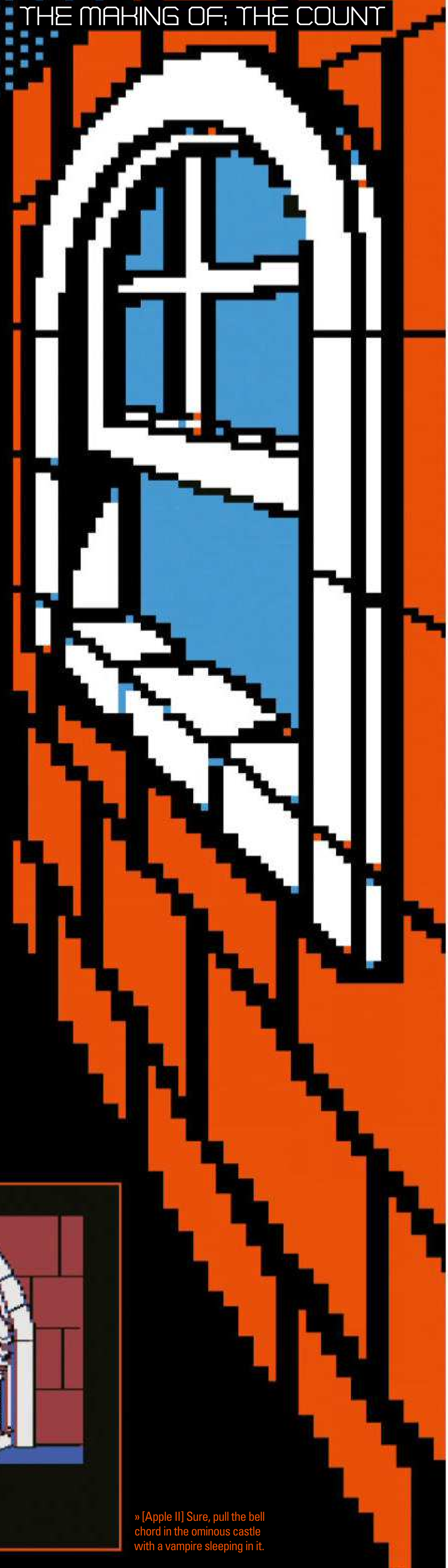
This approach helped instil *The Count* with a satisfying logic. Try climbing the sheets holding a lighted torch, for example, and you'll soon remember cotton is flammable. Yet for all the atmospheric period detail, we can't resist challenging Scott on one glaring inconsistency. Exactly what is a solar-powered oven doing in the 19th century? What inspired him to make this Count some kind of environmental visionary? "I feel I'm using a gift God gave me," he giggles. "That's my ultimate inspiration. I had an oven because it was a kitchen and then because of the day/night cycle, I thought, 'I could play with this'. I wanted to throw people off the tracks, until they get that, 'Aha!' moment."

There are many such moments in the game and just as many mulling over possibilities which end up being clever red herrings. We regale Scott with our many futile attempts as a child, playing on the VIC-20 cartridge version, of trying to block the air vent and prevent a nocturnal visit from that marauding bat, much to his amusement. He also chuckles when we remind him of the awful cigarette-related pun near the climax of the game. "I smoked for ten years, then quit cold turkey when I was 24," Scott adds. "Smoking was still very popular back then and I didn't think it was a good thing so I just wanted to make a little anti-smoking statement… and throw in a horrible joke. Remember this was a comedy not a horror story!"

Scott laughs again and it's clear the affection we have for *The Count* is shared by its author. He names it, along with *Pirate Adventure* and *Ghost Town*, as one of his



» Your correspondent with Scott in Florida. He had us at SYS 32592.





THE HULK
1984

■ The first in the *Questprobe* series, based on Marvel characters, it certainly raised the profile of Adventure International, and taught everyone that if in doubt, bite your lip.

THE INHERITANCE
2013

■ Scott's Christian faith is central to this adventure, which includes the complete text of the Bible to aid in puzzle-solving. He hints that a 'Conversational Adventure ™' remake is planned.



> **"I NEVER STORYBOARDED A GAME. SOMETIMES I HAD NO IDEA WHERE THE STORY WAS GOING"**
> Scott Adams

three favourites of the 'classic' adventures he wrote in the late Seventies and early Eighties, and we wonder if the game influenced the many titles that would follow. "Oh yes, it definitely helped me develop my game engine," he agrees. "I was always stretching myself and I felt *The Count* was more logically consistent than what I'd done before. It was also something of an apology for *Secret Mission*, which was also time-based but was far too rapid. That's my least favourite game because I think I did a disservice to players by making it too hard. *The Count* was me making up for that… and it made me think about what 'winning' a game meant. I mean, I was giving people a story with some unhappy endings."

Which brings us back to where we started. Does the vampire theme really still trouble his Christian conscience? He thinks for a while before answering. "It's bringing attention to something dark, even if it's doing it in a lighthearted vein," he decides. "It is still glorifying darkness. There's enough evil and darkness in the world. I want everything I do to be positive and about helping people on their journey."

You cannot help but be touched by the strength of Scott's faith and his determination to be a force for good. During our time with him legions of fans and a fair number of former Adventure International employees sought him out to thank him for the pleasure his games had given them. He would greet each one with a warm handshake and grateful smile, gracious with his time and ever humble in the face of their effusive praise. Which may explain why Scott is acutely embarrassed when we remind him that when *The Count* was re-released with accompanying graphics as part of his *SAGA* (*Scott Adams Grand Adventures*) series in the early Eighties for such micros as the Apple II and Atari 8-bits, the title screen featured Scott himself in full Dracula garb.

"It was pure narcissism on my part," he admits. "I did the same with the Marvel comic series – I put myself in as the chief villain! I wasn't a Christian then but I did have a religion and my deity was myself. Back then, I had selfish motives. I wanted to make money. I wasn't putting other people first when I was writing my games but I'm glad they touched people in positive ways and looking back, that makes me happy."

Scott's wife Roxanne, who, along with his grandson Nathan, has been sitting with us at the table as we reminisce, nods in agreement. "I've only discovered how much his work has affected people by reading all the fan mail he's been sent over the years," she says. "And he still gets it! People write about the impact his games had on them growing up and that really opened my eyes. That's when I realised I needed to champion him, in fact, kick him out of his comfort zone and start this new journey.

"She extended the right foot of fellowship," quips Scott, who has indeed returned to games development with Roxanne with their new company Clopas LLC. "Now I feel an urgency to walk this path God has shown me… and not drag my feet." *

Visit www.msadams.com for more on Scott's wonderful old games and www.clopas.net for news on his exciting return to adventure game writing.



» [Apple II] Sure, pull the bell chord in the ominous castle with a vampire sleeping in it.



BIO

Devil Crash was originally released for the PC Engine in 1990 and is a spiritual successor to Compile's 1988 pinball hit, *Alien Crush*. The game proved popular enough to be ported to Sega's 16-bit console, with coding duties falling to Technosoft, the team behind the *Thunderforce* games. This port in turn eventually appeared in the west under the moniker *Dragon's Fury*, but is missing all the pentagram symbols that featured in the original version of the game. A sequel by Tengen, *Dragon's Revenge*, appeared in 1993.

CLASSIC MOMENTS

Devil Crash MD

» **PLATFORM:** MEGA DRIVE » **RELEASED:** 1991 » **DEVELOPER:** TECHNOSOFT

It's easy to forget about *Devil Crash*'s final boss, because he's so difficult to bloody reach, as he requires you to best every other table in the game before you can defeat him. Defeat King Demon you must, though, and it's an objective that will test even the most hardened of gamers. As with other enemies in the game, King Demon is well protected, and in this case he's surrounded by two very fierce bodyguards who aren't afraid to use their spinning halberds to deflect your ball and send it hurtling back towards you. Fireballs are another hazard that need to be avoided and they cause endless headaches if you catch them in the wrong place. Hit King Demon enough times with your ball and he'll arise from his throne to continue the fight. Good luck, you're going to need it.

MORE DEVIL CRASH MOMENTS

The Face Of Evil



Devil Crash's main table features the face of a beautiful woman in its centre. She sits there looking serene until you start dropping balls into the top of her head. Explosions begin to appear and her face slowly starts to disintegrate, and it soon becomes obvious that something more menacing is hiding underneath. Hit her enough times and her calm visage disappears completely and she transforms into a hideous-looking reptile. This does net you plenty of points, though.

Get Bonus



Devil Crash is notable for its numerous bonus stages that you're transported to when certain objectives on the main table are achieved. Although they take place on a single screen, they all present a challenge with the most difficult being the huge demon that sits in the middle of the screen and throws a fire-breathing worm at you. He's a real bugger to take down, but at least you get to listen to a gorgeous slice of audio while you are doing it.

Strike A Chord



Frustratingly, one of the greatest moments in *Devil Crash MD* is one we can't actually show you. It's when you start the game and listen to the sensational soundtrack that emits from your Mega Drive as you batter your ball around the main table. A couple of minutes later you're still playing and later you suddenly realise that the scintillating piece of music still hasn't looped. It does eventually, nearly seven minutes after it first started. Astonishing.

Last Laugh



As you rack up a high score in *Devil Crash* you'll continually take stock of the many animated aspects of the board. There's a dragon that breathes fire as you destroy its eggs, a group of monks circle a pentagram on the top part of the table, while a chortling knight guards a ramp. By far the most annoying animated extra is a skull, which not only takes you to a bonus round, but laughs mockingly at you whenever you lose a ball. We hate that skull.



As one of the UK's most prolific developers, Bits Studios worked on some of videogaming's best-known licensed titles while trying its hand with a small number of original games. Founder Foo Katan and some of his former developers reminisce

Words by David Crookes

Foo Katan is driving, steering his way around the sun-kissed streets of LA while casting his mind back 30 years to the days when he set up Bits Studios, the often-overlooked London-based company that burst into life in 1989. "Do you know what Bits meant?" he asks, answering before **Retro Gamer** can guess at a riff on bits and bytes. "Belief In The Solution," he continues. And with that, he takes us on a journey through the 17 years of a company that became known for its strong relationship with Nintendo and a string of big-name licences.

For Foo, the trip began in 1982 when, as a teenager, he had been coding alone on the BBC Micro and Commodore 64. With his friend, Jez San, he ended up working for Silversoft during the summer, a move which inspired Jez to set up Argonaut Software and Foo to codevelop *Skyline Attack* for the C64. It was a time of great activity for the pair. They also coedited the tape-based emag *CPC 464 Computing* and worked with Simon Rockman on a book called *Quantum Theory.*

Most crucially, Foo and Jez had written the cross-development tool PDS (Programmer's Development System). Comprising an Apricot PC, an assembler, debugger, editor, profile and graphics tool, it made development on 8-bit computers such as the C64, MSX, ZX Spectrum and Amstrad CPC straightforward. Teaming up with fellow coder Andrew Glaister, Foo sold the system to other devs through a company called PD Systems Ltd. "It was during the marketing of the PDS at the CES in Las Vegas on 1989 that I began to realise just how big the console business was," Foo says. Spotting the upcoming Game Boy, he set up a team to create console games on his return.

This presented problems of its own. Not only did Bits not have a history with Nintendo consoles, it was difficult to become a Nintendo developer. "Over six months, we reverse-engineered the Game Boy," Foo says. Eventually a way around Nintendo's block on unlicensed developers was found,and this allowed Foo to visit various publishers at the Winter CES in January 1990. He walked away with commissions to create *Chase HQ* and *R-Type* for the Game Boy.

Chase HQ was coded by Richard Chappells with an artist credited only as Rosie and it was the first western-



» [Game Boy Color] Produced exclusively for the Game Boy Color, *Warlocked* was one of Bits Studios' finest games.

developed game Taito had published in Japan. *R-Type* was created by Jason Austin and Mark A Jones, with music for both games by David Whittaker. "We had the guys working out-of-house and in their own homes," Foo says, "and they were in two-person teams with myself as producer. Jason was an amazing programmer and he produced a great version of *R-Type*."

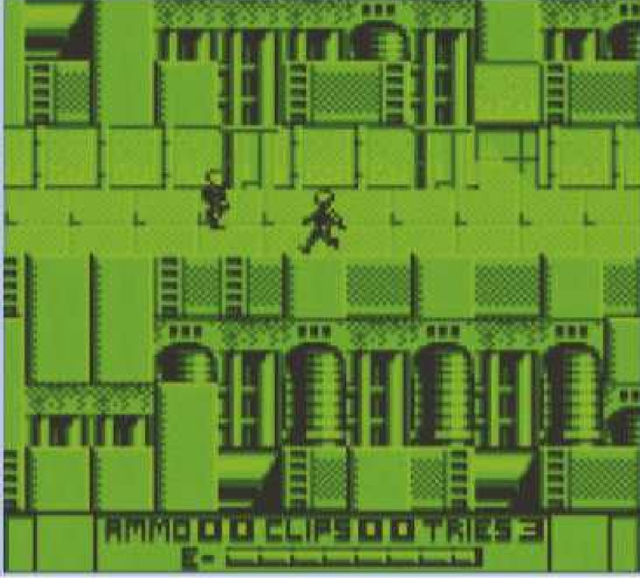
The Game Boy rapidly became Bits Studios' primary platform and *R-Type* sold more than 700,000 copies. Argonaut handed Bits the rights to develop *Loopz* for the NES. The developer then went on to create *Robin Hood: Prince Of Thieves*, *T2:Terminator 2 – Judgment Day*, *The Amazing Spider-Man*, *Castelian*, *Last Action Hero* and *R-Type II* for the Game Boy. "Bits was also producing the Game Boy development kit," says Gina Jackson who joined in 1992. "I was taken on at the company because I had finished a masters in render programming and I'd done a lot of stuff with 3D Studio, but when my machine was rendering, I'd be soldering boards to make the dev kits that were being sent all over the country."

Gina began at Bits just before it moved from Harrow to Cricklewood, London. "It was an insane place above a newspaper distribution centre," Gina recalls. "There was always this flirting worry that if the newspapers ever caught fire, we'd all be doomed." While this was taking place, however, the developers continued creating games and demos for Foo to take to publishers for future commissions. The company was growing fast.

"*T2: Terminator 2 – Judgment Day* had been a turning point for us and it allowed us to accelerate our growth," Foo says. With great graphics and challenging levels that provided varied gameplay, the side-scroller had indeed reviewed well, drawing upon scenes from the movie that ensured it was perfectly lined up to coincide with the film's release.

Its success gave the firm confidence to try and branch out. So as well as producing an original title – the futuristic sports game, *Space Football: One On One* which was an exclusive for the SNES – it also made inroads in Japan with *Castelian*, a Game Boy and NES version of *Nebulus* that was released as *Kyoro Chan Land* and which is reported to have sold well. The developer was also the only third-party development house ever used by Irem Corporation, with single-player platformer *Saigo No Nindou* being released only in Japan for the Game Boy.

By now, Bits was firmly established as a Nintendo developer. "We'd formed lots of strong relationships with console companies but Nintendo was top for us," says Foo. "We became very close, and I could never speak more highly of Shigeru Miyamoto." The love for Nintendo's consoles saw Bits develop *Dream TV*, *Genocide 2* and *The Itchy & Scratchy Game* for



» [Game Boy] Unlike the console versions of the game, *Alien 3* on the Game Boy was more about solving puzzles and exploring.

TIMELINE

1989 ■ Bits Studios is founded by Fouad 'Foo' Katan.

1990 ■ **The company reverse-engineers the NES and Game Boy and creates a functioning development system.**

■ *Chase HQ* is released for the Game Boy. *Loopz* is unveiled for the NES.

1991 ■ **Bits becomes known as BITS Ltd.**

■ *Robin Hood: Prince of Thieves*, *T2: Terminator 2: Judgment Day* and *R-Type* are released.

1992 ■ ***Castelian*, *R-Type II* and *Space Football: One On One* are the highlights (along with *Sssnake* for the Supervision).**

■ *The Amazing Spider-Man Vs The Kingpin* is released for the Game Gear.

1993 ■ ***Saigo No Nindou* is released in Japan.**

1994 ■ Bits produces some poorly received titles including *Dream TV*, *Mary Shelley's Frankenstein* and *No Escape*.

■ **The company is temporarily known as Bits Corporation before reverting to the original name of Bits Studios.**

1995 ■ *Itchy & Scratchy* is Bits Studios' final 16-bit cartridge game.

■ ***T-Mek* and *Maximum Roadkill* herald a move into PC gaming.**

■ Bits signs a deal with Philips to make *New Day*, *Cartoon Academy* and *Riqa*.

1996 ■ **Original game *Nihilist* is released for Windows PCs.**

1999 ■ *R-Type DX* is launched for Nintendo's Game Boy Colour.

2000 ■ **Bits is listed on the AIM market on the London Stock Exchange.**

■ The wonderful *Warlocked* is released the Game Boy Colour.

2001 ■ ***Virtual Athlete* and *Lab Rat* enter the online space under the subsidiary company Gamesmagnet, the latter attracts 40,000 players.**

2002 ■ *Die Hard: Vendetta* is released for Xbox, PS2 and GameCube.

■ **Bits' turnover is £994,000.**

2003 ■ *Rogue Ops* is released as Bits Studios turnover is revealed to be £1.7 million.

2005 ■ ***Constantine* is released as the company announces the development of *The Man With No Name*, aimed for 2006.**

2006 ■ Bits Studios closes its doors.



» [SNES] It could have been good but we'd have rather nailed our tongue to a car, allowed it to speed away and smashed out head with a hammer than play *Itchy & Scratchy* again.

» [SNES] Bits Studios produced the SNES and Mega Drive versions of *Mary Shelley's Frankenstein*, the development of which involved a video shoot.



» [Mega Drive] *No Escape* was based on the 1994 movie and it was published by Sony Imagesoft for the Mega Drive, SNES and PC.

the SNES. In each case, the games were made by ever-larger, dedicated teams rather across departments. "We wanted the developers to feel that they owned the games they were making," Foo says.

Talking to those developers, it's clear there was good camaraderie between the staff. Lead tester Stephen Hallett was only on a three-month contract but says he stayed for two years "mainly because of the people". Composer/sound designer Paul Weir also talks of high quality devs while Gina was struck by how diverse the company was. "When I left at least 25 per cent were women, there were lots of non-whites and many people from a working class background," she says. "It was a setup that you don't see these days."

It meant there was joy when a game did well and sadness when one failed. A major blow was *New Day*, one of the games which formed a joint venture between Bits Studios and Philips Media. Due for release in 1999, it was ambitious – set to feature 60 real-life characters and filmed at the Roundhouse in Camden, north London, using 16 digital cameras on a 360-degree blue screen circular stage. Huge amounts of money was poured into the game, yet it ended up being canned, much to the disappointment of those working on it.

"*New Day* would have had lifelike characters and it was being earmarked for Philips CD-ROM platform," Foo explains. "But even though it caught the imagination Philips pulled out. I still think we could have pulled it off with more resources and time but it didn't quite work that way."

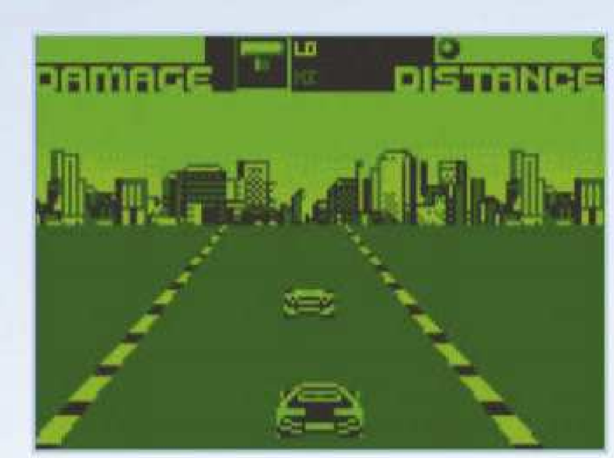
> "We wanted the developers to feel that they owned the games they were making"
> Foo Katan

It wasn't the only axed game. Others included *Riqa*, a game commissioned by Nintendo that would have introduced a rival to Lara Croft by providing a new heroine in a third-person setup, and the first-person shooter *Die Hard 64* (which emerged in 2017 in a playable early form albeit with incomplete levels).

Even so, there were undoubted gems that did see the light of day. Aside from *R-Type DX* in 1999, the new millennium brought the ace real-time strategy *Warlocked* for the Game Boy Color, a masterpiece of knights, wizards, tight levels and secrets which, annoyingly, was only released in the US. Bits also dabbled in online gaming with *Virtual Athlete* and *Lab Rat*. Both used proprietary 3D Amber technology developed by Bits' technical director Jerome Muffat-Meridol and they were released under a new Gamesmagnet subsidiary. "*Virtual Athlete* was a pioneering online game but the market wasn't ready for it and I feel we were ahead of our time," says Foo. "We didn't have the financial power to take it forward."

Indeed, finance was an ongoing issue. "Like many independent studios at the time, Bits was always struggling to make ends meet and it was in a constant battle to win publishing deals for original or licensed IP," explains Neil Dejyothin, who joined as Bits as web manager and PR in 2001. "They were unfortunate with two Game Boy Advance projects codenamed Jet *Riders* and *Wizards* which were cutting edge at the time and looked and played fantastically. I believe Bits came close to convincing Nintendo to take on *Jet Riders* to be *Wave*

THE DNA OF BITS STUDIO



LICENSED GAMES

■ Bits Studio was an independent developer which relied on bagging deals with the major publishers of the day. As such, there was an abundance of titles based on movies, television and coin-op franchises but very few original titles. Big name games from *Chase HQ* to *Alien 3*, however, ensured that the money flowed.



TALENTED STAFF

■ Foo Katan managed to surround himself with the most talented of coders, graphic artists, musicians and producers, all of who were in the early years of their careers. Many have risen in prominence from James Cox, who is now senior director of engineering at Natural Motion to Shahid Ahmad, the current director of Ultimatum Games.



PROLIFIC PRODUCTION

■ Bits knocked out games in droves, producing around 25 titles in its first five years alone. This was helped by the relatively simple nature of producing games in the early Nineties – it wasn't until the mid-decade that development moved from two-person person teams to larger teams. Bits certainly made the most of it while it could.



» [PS2] Bits Studios made much of a unique first-person control system but Die *Hard Vendetta* ended up being quite fiddly.

Race, but in the end Nintendo decided it didn't want to put the franchise on a handheld system. *Wizards* was the natural successor to *Warlocked,* and as far as I can remember, Bits came very close to sealing a deal to do a contract to convert this into a *Lord Of The Rings* title, but ultimately that ended up with EA."

Bits was luckier in bagging the first person shooter *Die Hard Vendetta* in 2002, a game that took place after the first three *Die Hard* movies. Players had to stealthily negotiate their way through numerous levels to save John McClane's kidnapped daughter. "It pushed the boundaries, but it could have done better," Foo says. "We also lost the rights to base the first level in a famous LA museum so we had to rebuild the first level in just two weeks. A nightmare."

At this stage, Bits had around 40 people working for it both in-house and freelance, down from a peak of 90 a couple of years before. "There were two teams, the larger working on the current game and the smaller team working on the next title," says Stephen who worked at Bits in 2002 and 2003. "Their direction just seemed to be to get whatever work they could, there didn't seem to be a long term plan beyond that."

The team created *Sega Arcade Gallery* for the Game Boy Advance while *Rogue Ops* was published for the Xbox, GameCube and PlayStation 2 (with the Xbox version faring best). In 2005, the action-adventure *Constantine,* based on the film of the same name, was launched. Paul, who had joined in 2002 and continued at Bits for four years, recalls having to do all of his work on this game before having access to any of the movie audio – "I was quite pleased on watching it, how close I got in some instances," he says – but he says he was left to get on with the job.

"The studio itself was quite a dive," he continues. "It was in an old converted building, I can't remember what it was but it was an odd shape for a games studio, dark and grimy. The best space was the audio room. They'd built a small but nicely-made studio mix room, which is where I spent most of my time, with an additional foley recording room, so from my perspective it was ideal."

Even so, it was becoming clear – internally at least – that Bits Studios was struggling. By this time Foo had created a new company called Playwize and made Bits a subsidiary as he sought to create online gaming software including *3D Poker.* "The game space had become untenable," Foo explains. "EA was losing money and the hardcore space was turbulent. We had to transition." Unfortunately, it spelled the end of Bits Studios which closed in 2006, followed closely by Playwize which followed a couple of years later. "I will never forget Bits Studios, though," Foo concludes. "It was a really talented studio and one that I loved being involved with." *




» [Xbox] *Rogue Ops* attempted to ride a wave of popular stealth action titles like *Splinter Cell* and *Metal Gear Solid.*



UNFULFILLED AMBITION

■ Shahid Ahmad led the axed *New Day* project and called it one of the most ambitious in videogames history but it wasn't the only one. *Riqa* had a female lead to rival Lara Croft but development took too long while *Wizards* was promising to push the boundaries of the Game Boy Advance handheld.



NINTENDO

■ Although Bits Studio developed relationships with major gaming platforms, its allegiance lay with the consoles produced by Nintendo. Bits Studio made a name for itself developing titles for the Game Boy and it also developed for the NES, Gamecube and Nintendo 64 (the latter's games were sadly canned).

WHERE ARE THEY NOW?



Foo Katan

■ Following the closure of both Bits Studios and its parent company, Playwize, Foo Katan cofounded another software company called Origin8 Technologies. Entirely independent, it makes games and apps for smartphones, tablets, PCs and handheld consoles and it continues to exist to this very day. Foo, however, moved to the USA where he met his wife and settled into a life in sunny Los Angeles. In 2014, he became the COO of Starbreeze USA, ensuring he keeps a firm hand in the videogame industry.



Gina Jackson

■ Gina was only at Bits Studios in 1992 and 1993 but she is a wonderful example of how successful so many ex-Bits staff have become. Having been a producer at Mirage Technologies, she later moved to Manchester where she worked as head of studio for six years at Ocean Software. Making the leap into mobile with Nokia, she took a position at Kuju, left for Eidos and, in June 2012, became the chief executive of Women In Games Jobs to help promote opportunities for women in the videogame industry. Aside from roles with the NextGen Skills Academy and GamesAid, she is currently head of games at The Imaginarium, the production company owned by Andy Serkis.

Neil Dejyothin

■ When Neil left Bits Studios in 2003, he became the lead QA at Electronic Arts, before working up the ladder at Sports Interactive, maker of the iconic *Football Manager* series. He progressed from Lead QA to Head QA to assistant producer, producer and senior producer, finally leaving in 2017 to become a project manager for PlayStation where he continues to work today on big name games such as *The Last Of Us* and *Gran Turismo.*

Minority Report

INTERESTING GAMES YOU'VE NEVER PLAYED

GAMATE

If titans like Sega and Atari couldn't come close to toppling the Game Boy from its early Nineties handheld throne, the Taiwanese BIT Corporation and its Gamate never really stood a chance, did it?

Words by Jonny Dimaline

BAO QING TIAN

■ DEVELOPER: **UNKNOWN** ■ YEAR: **1994**

■ **This brawler is easily the most technically impressive game that you will find on the Gamate, and also the most enjoyable to play.** It's a decent attempt at an arcade-style beat-'em-up on hardware that's obviously not built to host such a game. Right from the outset, you can see that it looks a lot better than any other game on the system – even if the character animations are jerky the backgrounds look amazing, like ancient tapestries, albeit ones rendered in only four different shades of green.

Also right from the start you'll see that it falls foul of a criticism that's often levelled at beat-'em-ups, often (but not in this case) unfairly: that all you do is walk to the right, press the attack button a few times, then repeat that over and over until you die or reach the end of the game. There's a few different types of enemy in each stage, but honestly, you never really have to switch up your strategy, even for the bosses: just make sure you hit them before they hit you, and keep repeating that until they finally fall over, flash and vanish. Despite that, though, you'll likely end up playing it for quite a while, and having a good time along with it. It's a game that's, more or less, completely carried by the strength of its graphics and music, which is also of a higher quality than you might expect.

As well as the great backgrounds, the sprites are pretty big, and though they only seem to have a few frames of animation each, they don't suffer from the flickering that plagues a lot of Gamate games. Again, it far overshadows any other game with which it shares a system in terms of quality. But while that's the greatest strength of *Bao Qing Tian*, it's also highlights the Gamate's weakness. This game was released in 1994, and the Game Gear had already had an amazing port of one of the best beat-'em-ups ever in *Streets of Rage II*, and while beat-'em-ups were still (and would continue to be) something of an underrepresented genre on the Game Boy, it was getting pretty fun (though obviously severely cut-down) ports of fighting games like *Battle Arena Toshinden* and *Samurai Shodown*. Meanwhile, *Bao Qing Tian* is apparently pushing the Gamate to its absolute limit, and offering a game that, while decent enough and fairly fun to play, still feels like it's getting a lot of goodwill simply by virtue of being such a miraculous technical feat on its host hardware. You could even call it pity. While the Game Boy would go on to last another seven years in one form or another, and even the Game Gear might have made it, if only it had better battery life, the Gamate's finest hour was also the final nail in its coffin, serving to make it all the more clear that it was a system on its last legs, that had no hope of long term survival, either against its competitors, or in general.

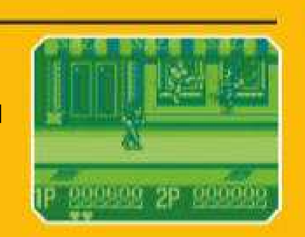


» [Gamate] *Bao Qing Tian* must have been a lavish production by Gamate standards if these fullscreen pixel art cutscenes are anything to go by.

IF YOU LIKE THIS TRY...

DOUBLE DRAGON 2

GAME BOY



■ One of the Game Boy's very few beat-'em-ups (unless you count unlicensed Chinese games, of which there are many), it's not a port of the arcade game, but an adaptation of one of the prolific *Kunio-kun* series that also spawned *Renegade*. It's a simple game, but still a lot of fun and worth seeking out.

STREETS OF RAGE 2

GAME GEAR



■ Though it loses a lot (including a playable character) in the move from Mega Drive to Game Gear, Sega's masterpiece is still a ton of fun to play in 8-bit handheld form, and is about as good anyone could make such a game under the circumstances. The tiny little sprites are incredibly endearing, too!

FINAL FIGHT ONE

GAME BOY ADVANCE



■ Of course, the GBA was a huge step up in power from the handhelds that came before it, and having a better port of *Final Fight* than even the SNES could offer is a great example of that. Every stage from the arcade is here, and there are even more characters to play as, making for a near-perfect port.

IN DEPTH

IN FOR THE LONG HAUL

■ Though starting you off with six lives might seem a bit too generous, the stages in *Bao Qing Tian* are pretty long, and theres a few of them to get through before you see the ending.

BEAUTIFUL ARTWORK

■ The minimalist, tapestry-like backgrounds do a good job of providing aesthetic cues, where more detailed backgrounds might have made the action slower, or harder to follow.

ONLY SKIN DEEP

■ Though there's actually quite a few different enemies right from the start of the first stage, unfortunately, the same simple strategy is effective in dealing with all of them.

MOTLEY TRIO

■ In the beat-'em-up tradition, the playable characters are a fast young woman, a big tough bearded man, and a sword-wielding youth who's somewhere in the middle.

Minority Report

ONE MILLION WHYS

■ PUBLISHER: **UMC** ■ YEAR: **1993**

■ **Quiz games were a pretty popular fixture in the arcades of Japan in the Nineties.** They'd take over an hour to complete, with the expectation being that players would keep putting their money in when they got a game over so they could see more of the plot unfold, and then they'd come back another time to go down another of the plot's branching paths. We can't say whether or not that trend ever reached Taiwan, but *One Million Ways* is a quiz game with a story. The story sees a girl getting kidnapped by some monster in the sky, and the player takes on the role of her dog, trying to rescue her.

For some reason, everyone and everything you encounter wants to stop you from doing that, whether they're human, animal, or inanimate object. They'll ask questions, promising rewards for right answers, and instant death for incorrect ones. Even stranger still is that we've only encountered questions about plants. The first encounter, a talking tree, says it's going to ask you questions about plants to test your ability to survive in the forest, so we assume it's some kind of glitch, or maybe a mix-up in translation that causes every other character to also ask about plants. On the subject of translation, it's actually quite impressive that UMC included both English and Chinese options on the same cartridge, though maybe the amount of ROM space that takes up could also be an explanation for the shallow question pool. All in all, this game's mainly proof that the Gamate could probably have handled an RPG, if any company would have wanted to invest the resources needed to make one.



» [Gamate] Try and use one of your items (acquired by answering questions) at the wrong time and be mocked by this kermit lookalike.



» [Gamate] Judging by the game's pool of questions, it seems it was made for a very specific audience.

> "It's quite impressive that UMC included both English and Chinese options on the same cartridge"

MORE GAMES TO PLAY







» PUNK BOY

■ DEVELOPER: **BIT CORPORATION**
■ YEAR: **1992**

■ An absolutely shameless copy of the Mega Drive version of *Mickey Mouse: Castle Of Illusion*, right down to pressing the jump button twice to execute the bum attack, and even the cluster of sparks that pop up when you kill an enemy. The main differences are that instead of Mickey's iconic ears, the protagonist has a messy hairdo, and unfortunately, they didn't steal the stage designs from *Castle Of Illusion*, as Punk Boy's stages are terrible.

» MONSTER PITFALL

■ DEVELOPER: **BIT CORPORATION**
■ YEAR: **1990**

■ It's not clear where the eponymous 'monster' comes into proceedings, but this is just a competent clone of the Atari 2600 game *Pitfall!*. There only seems to be a few repeating screens, with extra enemies and hazards added on each cycle, but it's inoffensive enough. If you know that game, you know this one: you just go right, avoiding traps and wild animals, and collecting treasure, though there's not much of it about.

» QUIZ FIGHTER

■ DEVELOPER: **UMC**
■ YEAR: **1993**

■ Despite the title, there's no questions to be answered here. Instead, it's a *Street Fighter II*-wannabe fighting game, with eight selectable characters. It's not a patch on the arcade ports seen on the Game Boy or Game Gear, but it's not completely terrible, either. The cast is very odd, though, alongside four human pugilists, there's also a dragon, a fish-man, a chicken-man, and most bizarrely of all, a bare-breasted cow-woman.

» COSMIC FIGHTER

■ DEVELOPER: **BIT CORPORATION**
■ YEAR: **1990**

■ Though it doesn't seem to be a direct clone of any particular game as far as we can tell, *Cosmic Fighter* is a simple single-screen shooting game that's very reminiscent of the kind of games that were released on 8-bit microcomputers in the early Eighties. Each stage has you killing birdlike enemies and avoiding their fire, until there's none left and you go to the next, very slightly harder stage. Primitive, but not necessarily bad.

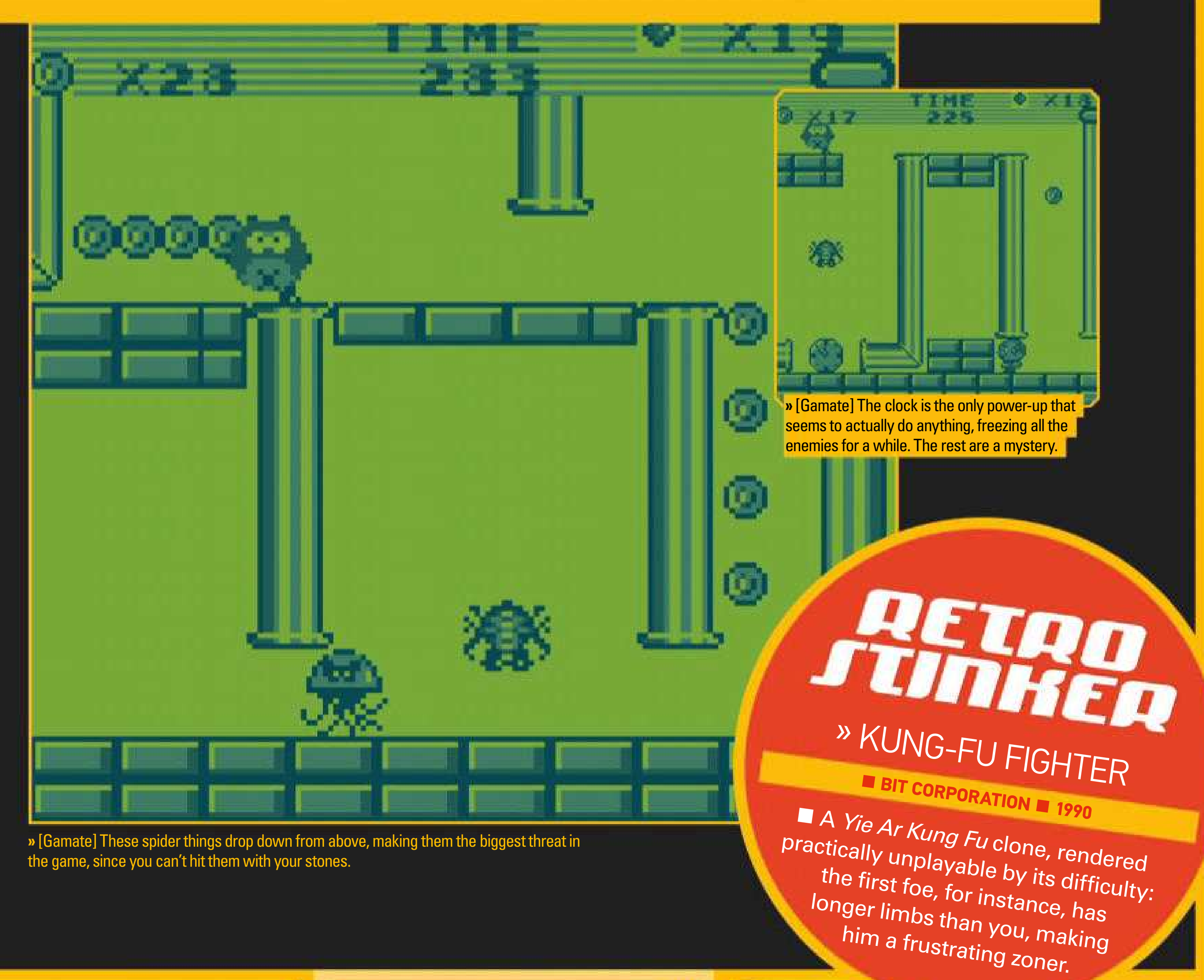
NIGHTMARE OF SANTA CLAUS

■ PUBLISHER: BIT CORPORATION ■ YEAR: 1991

■ Despite what the excellent title might imply, Santa Claus doesn't actually seem to appear in this game beyond the title screen. Instead, you play as a horrible-looking little balding man, charged with the age-old task of collecting coins from small, enclosed platform stages while avoiding enemies. The twist in the tale is that the shrunken Iain Duncan Smith lookalike you control can't jump, and must instead rely on his ability to zip through *Mario*-esque pipes to get around.

This is actually a lot more fun than its simple premise might imply. You walk around and go into pipes with the d-pad, and you can throw stones (we think) at enemies to stun them, too. There's other items to pick up besides the coins, though most of them don't actually seem to do anything. Once you get all the coins in a stage, a key and door appear. Get the key, go into the door, and go to the next stage. There's also a weird bug that means that when you lose a life, you get a time bonus as you would for completing a stage. Though you still lose a life and have to start the stage again.

The few small problems it has aside, though, *Nightmare Of Santa Claus* is a pretty good game, that's very reminiscent of the arcade games of the early Eighties, and well worth looking at.



» [Gamate] The clock is the only power-up that seems to actually do anything, freezing all the enemies for a while. The rest are a mystery.

» [Gamate] These spider things drop down from above, making them the biggest threat in the game, since you can't hit them with your stones.

RETRO STINKER

» KUNG-FU FIGHTER

■ BIT CORPORATION ■ 1990

■ A *Yie Ar Kung Fu* clone, rendered practically unplayable by its difficulty: the first foe, for instance, has longer limbs than you, making him a frustrating zoner.



» FANTASY TRAVEL

■ DEVELOPER: UMC
■ YEAR: 1993

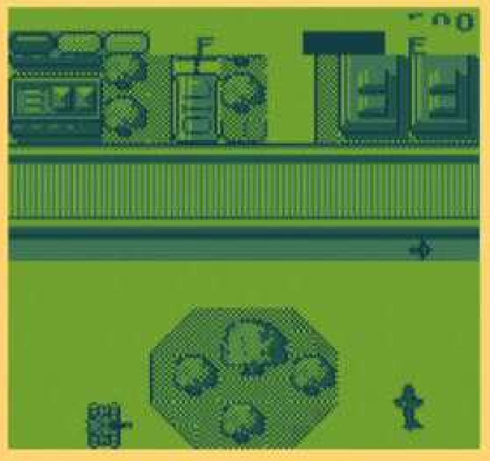
■ Yet another clone of a game from another system, *Fantasy Travel* is a knock-off of the NES *Rescue Rangers* game, a staple of 99-in-1 pirate cartridges. If you don't know, it's a cute platformer in which you play as a squirrel who can pick up and throw boxes at their enemies. A nice touch in this particular version is the option to play as a male or female squirrel. Probably the most competent platformer we've seen on the Gamate.



» GP RACE

■ DEVELOPER: BIT CORPORATION
■ YEAR: 1992

■ *GP Race* represents a noble effort, to attempt an into-the-screen *Formula 1* racing game on the humble Gamate. Unfortunately, it all adds up to not much more than hubris and failure. The game is incredibly slow, the cars seem to take up half of the entire width of the road, and they flicker like crazy whenever there's more than one of them on the screen, and it's just no fun at all. It's commendable that Bit Corporation tried, though.



» MARAUDER

■ DEVELOPER: BIT CORPORATION
■ YEAR: 1991

■ *Marauder*'s a fairly decent military-themed shooting game. There's not much in the way of power-ups or scoring mechanics, and the only real gimmicks it has are the need to keep refuelling by flying over destructible fuel barrels, and a screen after each life or stage telling you how many you shot of each enemy type. Despite (or maybe thanks to) its simplicity, though, it's a game the just works, and is definitely worth a play.



» JEWELRISS

■ DEVELOPER: BIT CORPORATION
■ YEAR: 1991

■ Obviously, any Game Boy wannabe worth its salt needs a block-sorting puzzle game, and the Gamate has *Jewelriss*, which is basically just *Columns*, but with a lot of aesthetic touches stolen from *Dr Mario* and *Tetris*. It does have one original touch, though: after you've cleared 200 jewels (incorrectly referred to in-game as 'lines'), the game just abruptly ends. So there's no possibility of a marathon session. Strange.



Splatterhouse 3

SO EXPENSIVE, BUT SO GOOD

» RETROREVIVAL

» MEGA DRIVE » 1993 » NAMCO

Sometimes a game takes a little while to click, and the third *Splatterhouse* title is one such game for me. I first picked it up around five years ago and paid the princely price of £45 for it. It was a little sun-faded (as many Japanese Mega Drive games are), but I'd always wanted to play it so I took the plunge.

It turned out to be a solid decision because Namco's Mega Drive exclusive is actually a very impressive scrolling beat-'em-up that has all sorts of neat ideas in it. The best is the introduction of nonlinear level design, which allows Rick to amble around the huge haunted mansion at will. The doors of each room remain locked until you've dispatched a set number of beasts; you can then choose to go wherever you like, which gives *Splatterhouse 3* a great sense of place as you gingerly explore the large house.

Time is also important in *Splatterhouse 3* as it directly affects the four possible endings you'll get at the end of the game. Take too long mashing monsters, for example, and your son might get killed, or maybe your wife Jennifer will turn into a mindless monster, or perhaps both of them will die. Wanting to avoid those grim endings will spur you on, allowing you to savour one more unique aspect of *Splatterhouse 3*:Rick's transformation into a monstrous version of himself. Monster Rick can not only chuck weapons at enemies, but he can also pull off a gruesome attack that lets him strike surrounding beasts with the flesh from his body. It's not very nice to look at, but it's very effective.

Add in some suitably atmospheric cutscenes and *Splatterhouse 3* proves itself to be an incredibly polished game, and easily the highlight of Namco's short-lived horror series. Just be aware that today it's now ridiculously expensive and you'll be hard-pressed to find a copy for under £100. Be sure to pick it up if you do find it for a low price, though. You may end up being pleasantly surprised by Namco's brutal ghoul-filled brawler.



THE HISTORY OF Baldur's Gate

LARGELY RESPONSIBLE FOR ELECTRIFYING THE RPG GENRE, EXPANDING IT INTO A WHOLE NEW AUDIENCE, THIS LEGENDARY SERIES IS STILL PROVING POPULAR TODAY. JOIN US AS WE RETURN TO ONE OF THE MOST TROUBLED TOWNS IN THE FORGOTTEN REALMS

Words by Graeme Mason

Formed in 1995 by three doctors, Ray Muzyka, Greg Zeschuk and Augustine Yip, Edmonton-based BioWare is today one of the most respected videogame developers in the world. With the trio of founders all holding a keen interest in games and *Dungeons & Dragons*, the creation of a videogame RPG was inevitable. An early BioWare employee, and key part in the development of *Baldur's Gate*, was designer James Ohlen. "Myself and a group of friends were among the first employees at BioWare," James recalls, "and we all drove down to Edmonton for the interview. They told us they were working on a *D&D* game, although they didn't know what it was going to be yet." In the meantime, BioWare had negotiated a deal with Interplay Productions for a mech-style game entitled *Shattered Steel*; coincidentally, the publisher had also acquired use of the *Dungeons & Dragons* tabletop RPG, and looked to its new partner to produce a game based round the TSR property. BioWare co-opted *Battleground Infinity*, a prototype real-time strategy game from coder Scott Greig, and used its engine as the base for the new RPG. "Scott had his engine and there were a dozen of us in total," continues James. "Ray and Greg were negotiating with Interplay this game based on *D&D*, and originally it was called *Iron Throne*. Of course, there were a lot of iron throne toilet jokes, before Brian Fargo [Interplay founder] came up with the name *Baldur's Gate*." *Baldur's Gate* had become the central focus at an early stage as TSR wanted Interplay to create an RPG based





» [Above left]The *Battleground: Infinity* proposed RTS that became *Baldur's Gate*.

» [PC, left] An early inn-based battle as the party takes on a team of assassins.



» [PC] A quest to solve the region's iron crisis leads you to a labyrinthine mine.

around the Forgotten Realms. At the time it was the most popular *D&D* campaign setting, and it also featured a mass of material from which BioWare could draw from, with the downside being a relatively small area in which to base the game. The main city and focus of this area was its title; then all it needed was a lead designer at the helm. "When people ask me how did I become a lead designer, I say I decided I was gonna be one, went away, did all the work, and they said, 'You're the lead designer!'" laughs James. "If you're passionate about something, pursue that, and *Dungeons & Dragons* had been in my life since I was 11 years old. *Baldur's Gate* was the chance for me to present what I thought would be a great *Dungeons & Dragons* style RPG."

In addition to James, almost every employee at BioWare was also a fan of the famous tabletop game. While this passion is clearly evident in the finished games, at the time none of the team actually had any programming or art experience. But they knew how to create an evocative story, they knew all about RPGs, and they knew exactly the sort of game they wanted to play. James continues, "I've always felt that you can go too far in the story direction, and also too far in the exploration and combat direction. If you marry those together, you get something that gets the power gamers involved in the story, and the story gamers involved in the combat and tactics – get them both to appreciate the sides they don't normally do." BioWare would later build its reputation on the power of storytelling – think *Star Wars Knights Of The Old Republic*, *Mass Effect* and *Dragon Age* – and that began with *Baldur's Gate*, over 20 years ago.

B*aldur's Gate* is the story of a mage named Gorion and his young orphan charge, controlled by the player. Along with childhood friend, Imoen, the orphan grew up in Candlekeep, a walled fortress situated just south of the fabled titular city. The mystery begins with the player ushered out of their home by Gorion, who refuses to reveal the reason for the hasty exit. Upon leaving, they are ambushed and Gorion is murdered; soon the player is embroiled in a political imbroglio while investigating a chronic iron shortage and trying to discover who is behind the death of their guardian. It's an intriguing and absorbing tale that leads to some surprising revelations and fascinating characters. Yet depth of story alone was not what sold *Baldur's Gate* to the masses.

For years, RPGs had remained, typically, stoically turn-based, even with popular series such as Interplay's own *Fallout*. And turn-based fans, like it or not, this method of play was what many perceived as holding the genre back. *Baldur's Gate* became a bridge between turn-based and real-time, the old and the new, unfashionable and the fashionable. "That

HEROES AND VILLAINS

From the lawfully good to the chaotically evil

SAREVOK

■ Half-brother of Gorion's Ward, Sarevok escaped his demonic father's sacrificial ritual when it was interrupted by Gorion and the Harpers. Adopted by a member of the Iron Throne, he becomes the main antagonist of *Baldur's Gate*, determined to kill his fellow Bhaalspawn and ascend into Godhood himself.

IMOEN



■ The main character's childhood friend, Imoen is an expert thief, thus valuable throughout the *Baldur's Gate* campaigns. An eternal child at heart, Imoen is forced to grow up fast during *Baldur's Gate II* after being tortured by Irenicus, then arrested by the Cowled Wizards for unlicensed magic use. Tsk.

MINSC

■ One of *Baldur's Gate*'s most memorable characters, Minsc is a neutral good ranger, and slightly unhinged thanks to his strange love for giant space hamster, Boo, actually a normal sized and very ordinary hamster. Named after the Russian city, Minsc is possibly the most quotable character in the entire series.

JON IRENICUS



■ *Baldur's Gate II*'s chief antagonist, the mage Irenicus, captures the lead character and experiments on them and Imoen in order to divulge the mysteries of their demonic ancestry. An elf by birth, he was cast out of his home city thanks to his insane power-hungry attempt to become a god.

KHALID



■ Eschewing his valiant and determined portrait, Khalid is a half-elf fighter, member of a prestigious group of adventurers, the Harpers, and actually a rather nervous chap. Married to fellow Harper, Jaheira, he unfortunately meets an untimely demise at the hands of Jon Irenicus in *Baldur's Gate II*.

KORGAN BLOODAXE



■ Not every party member has to be a good guy. A chaotic evil bezerker dwarf, Korgan can be found at the Copper Coronet Inn when his personal quest is accepted. Worth having around, not just for his combative abilities, but also the banter between him and any good characters in the party.

ALLESSIA FAITHHAMMER



■ A Cleric of Helm, Allessia is a do-gooder, bound to protect the innocent and serving the public, kind of like a medieval RoboCop. Hearing of the troubles in Baldur's Gate, she travels there in *Dark Alliance II*, and has a neat range of magical attacks at her disposal.

VAHN



■ Arcane Archers are known for their ability to land an arrow onto a pinhead, often with additional magical effects. Arriving in Baldur's Gate at the wrong time, Vahn is soon knee-deep in the political and social upheaval of the famous city and up against Eldrith's Dark Alliance.

> "I PLAYED WARCRAFT 2 AND STARCRAFT MORE THAN YOU CAN IMAGINE"
> James Ohlen

was me and Ray [Muzyka]," remembers James. "Ray was a big fan of turn-based games, the Gold Box games, and my favourite genre was real-time strategy – I played *Warcraft 2* and *StarCraft* more than you can imagine. So it came from having to have a real-time game that satisfied fans of that genre, but also satisfied turn-based fans." The result was tactical pause, where the player could pause the action before and during a battle, allocate weapons, target enemies and even quaff potions to buff up their party members. Then you'd unpause, and let the decisions take effect, for better or worse. "Maybe I shouldn't say it," reveals James nervously, "but I was never a fan of *Fallout* and *Fallout 2*. I liked the story and the world, but the fact it paused and took turns for moving, I never liked that. RPGs are about immersing you in their world, so the closer you get to the feeling of real, the better." Despite James' convictions, the decision was not met with universal praise; but his philosophy paid off when *Baldur's Gate* was released to almost total acclaim and sales far in excess of Interplay's expectations.

As *Baldur's Gate* sold in its thousands around the world, sucking gamers into a time warp where suddenly it was 3am in the morning and they were still engrossed in its world, BioWare was already at work on its expansion. "We were always going to have *Tales Of The Sword Coast*," says James. "It wasn't left over material, we just needed an expansion to make extra money." Given no one had any idea how big *Baldur's Gate* was going to be, the add-on was a little by-the-numbers. "It wasn't much, as we didn't stretch ourselves. It was okay, but *Baldur's Gate II* was when we knew we had to have something that would blow everyone away." BioWare's original plan for *Baldur's*

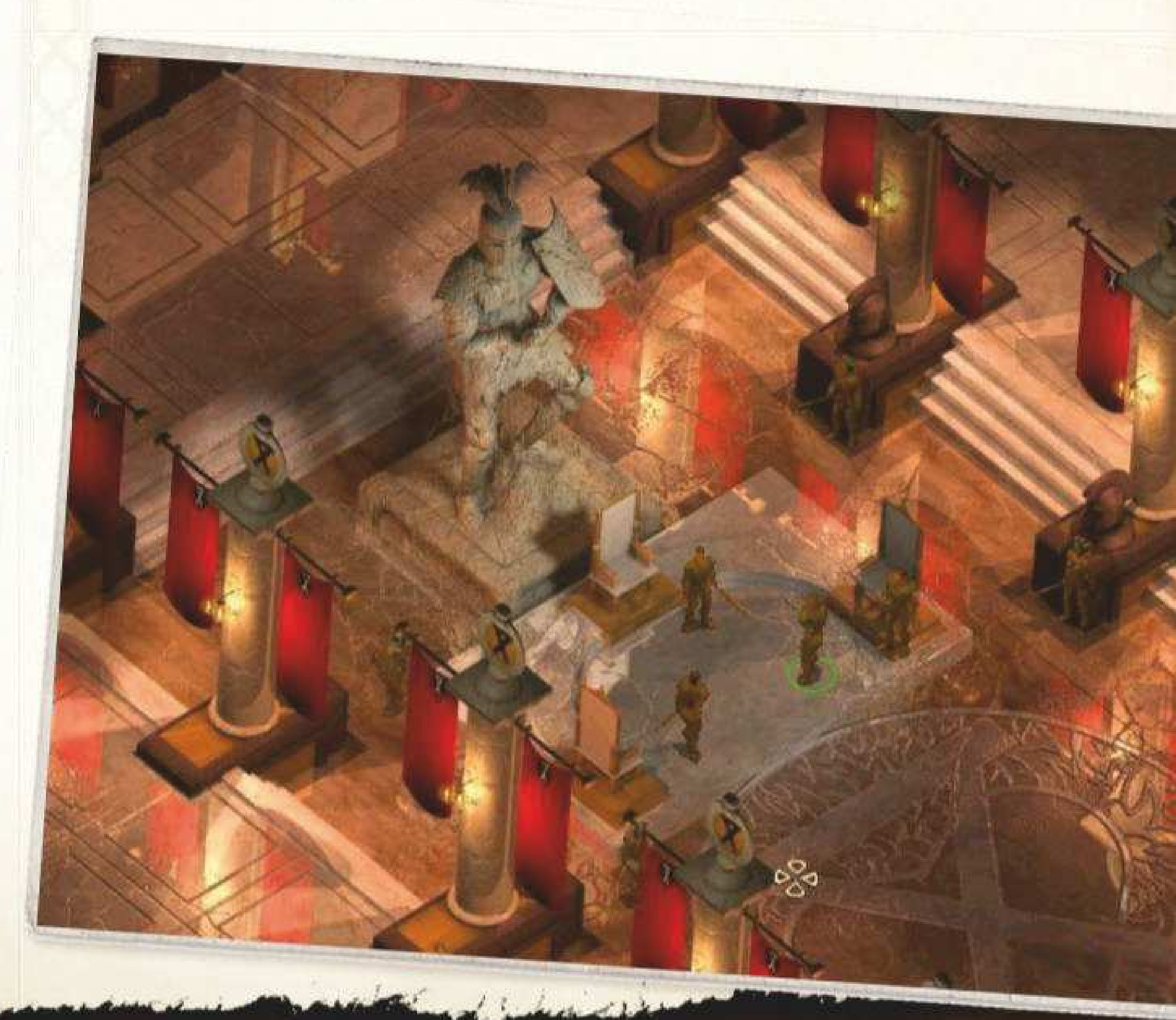


» [PC] The player can assign weapons, armour and so on from this character screen.



» Chris Avellone has made a career for himself writing RPGs.

» [PC] Seeking some healing in a temple in *Baldur's Gate II*.





» [PC] Parts of the map would become available as the game progresses.

Gate was as ambitious as we've come to expect from the developer. "From the very beginning, the plan was to have a trilogy," reveals James, "so we wanted the player to be able to create a character not just for the first game but the entire trilogy." For those fans frustrated by the experience/level cap in *Baldur's Gate*, now you know why. "Yeah we just couldn't let the player have all the levels from the beginning – we were thinking if we could do as half as well as *Fallout*, we could do three games, making what we loved."

B*aldur's Gate* and its add-on were delivered a year late to Interplay; but it was still an instant smash, though. "The thing about Ray [Muzyka] and Greg [Zeschuk] was that they were smart men," continues James. "They were very humble and created a culture within BioWare that was also very humble. So it was all collaboration and the best idea wins out. Sure, there were heated arguments, as always, but we all wanted to make a great *Dungeons & Dragons* game, so were always focused towards the same goal." Despite the group's singlemindedness, there were inevitably minor faults within *Baldur's Gate*. Pathfinding, a constant bugbear of games even today, was far from satisfactory, with the player's party often prone to wandering through a giant spider nest rather than that safe route you'd carefully selected. And by self-admission, James realised his characters weren't quite as fully developed as they could have been. "I was talking to Dermot Clarke, who was a go-between between us and Interplay. I was high on the success of *Baldur's Gate*, including our story and characters. He told me they weren't really as well-developed as the characters in *Final Fantasy VII*." Between *Baldur's Gate* and its sequel, James played straight through the famous Squaresoft game, enthralled by the game's depth of character, from backstory, to interaction and romance. That's right, BioWare's famous (and sometimes infamous) romance systems began with the *Final Fantasy* series.

Baldur's Gate II continues the story of who we now know as the half-sibling of the first game's main antagonist, Sarevok, and fellow child of the Lord Of Murder, Bhaal. At the start of the game, the spawn of Bhaal and a handful of party members are imprisoned within a dank dungeon. Their host is Jon Irenicus,



» [PC] *Baldur's Gate II* opens with the player and party members imprisoned in a dank dungeon.

an evil mage who has discovered the nature of the lead character, and tortures them in a vain attempt to tap the power of the God Of Murder. Throughout the city of Athkatla and the lands south of Baldur's Gate, the game concludes in the Elven city of Suldanessellar, where the player must battle the mage and also, themselves, in order to save the city and their own soul. "As soon as we'd finished *Sword Coast*, we began on *Baldur's Gate II*," remembers James, "although we didn't have much sketched out beyond the fact we were going to do a *Highlander*-style storyline where the last spawn of Bhaal standing would become the new God." The sequel also boasted a superior screen resolution, an improved multiplayer experience (the game would no longer pause when one character entered a building for example) and a new pathfinding technique called 'bumping' which allowed characters to jump out of the way rather than block their teammates. Inspired by *Final Fantasy* and *Chrono Cross*, the characters themselves improved immeasurably says James. "We gave each companion character an entire storyline, added romance ▶

THE MISSING BALDUR'S GATES

"I'm actually glad we didn't really get the chance to make *Baldur's Gate III*, as I think what was planned, *The Black Hound*, had little to do with the franchise," says Chris Avellone when we ask him about Black Isle's proposed third game in the famous RPG series. "While the *Baldur's Gate* series kept the player protagonist in the forefront," the designer continues, "*Baldur's Gate III* took a step backward and made the antagonist's woes more important to the storyline, which I think ends up reducing the player agency. That said, there was some great art and level design ideas in it, I just didn't care much for the premise or the companion ideas." The third game, as perhaps befitted the circuitous ending to *Throne Of Bhaal*, would include none of the characters that had helped make the series so famous, and was unceremoniously cancelled when Interplay's deal with Wizards Of The Coast abruptly ended. BioWare itself was undeterred, and another major franchise was born from the ashes. "I'm a *Dungeons & Dragons* fan," recalls James Ohlen, "so I said we can't just give up on it. So we did our own version, *Dragon Age: Origins*, which was essentially just *Baldur's Gate* on console."

But *Baldur's Gate III* isn't the only abandoned game in the series. With BioWare busy on *Tales Of The Sword Coast* and the *Baldur's Gate* sequel, British developer Runecraft, already involved with publisher Interplay, was contracted to produce a PlayStation port of *Baldur's Gate*. With changes to the engine and gameplay made, including a smooth-scrolling display (as opposed to the PC game's push scroll), the game was almost completed before issues at Interplay – it had been in financial difficulty, despite the success of *Baldur's Gate* – led to a takeover by French publisher Titus. PlayStation *Baldur's Gate*, among many other projects, was brusquely dropped from development, as the focus remained solely on the sequel that would seek to dramatically improve every aspect of the original hit.





» [GBA] The Game Boy Advance version of *Dark Alliance* provides many interesting variations from the original game.

options and more fleshed-out relationship arcs. And the Forgotten Realms is a huge world, so just sticking to the area around Baldur's Gate didn't feel right." The sequel's expansion, *Throne Of Bhaal*, effectively replaced the proposed third *Baldur's Gate* game as far as BioWare was concerned, although Interplay itself continued the idea together with Black Isle Studios.

After the critical acclaim and success of *Baldur's Gate II*, BioWare, loathe to move away from the role-playing genre for which it had now made its name, began pitching alternative stories to Interplay based on the Forgotten Realms setting, utilising a new game engine. As attractive as the Infinity Engine was, its time had clearly come, and *Neverwinter Nights* was the next proposed chapter. Sadly, Interplay's money troubles were never far away, and it was eventually published by Infogrames, under its Atari label. But elsewhere, the *Baldur's Gate* story was taking a new direction, one that would reach a new audience once more, away from the dedicated PC fanbase.

Despite the cancellation of the PlayStation port of *Baldur's Gate*, Interplay didn't abandon the idea of a console version of its famous series. With franchise rights held by the publisher and, in any case, BioWare busy with *Neverwinter Nights*, a completely new story and style of gameplay was pitched for the PlayStation 2 console, a market that was proving too large to ignore. Within the publisher, and its in-house developer, Black Isle, there was a feeling that it was lagging behind in terms of console titles. "Console game sales during that period were a big part of the business," explains Chris Avellone, codesigner on the first game in this fresh direction. "And the fact that Interplay and Black Isle didn't have titles in the console space was setting the company back. *Dark Alliance* was intended to combat that." While a game in the style of the original *Baldur's Gate* could have worked, a focus on combat, exploration and linear gameplay was what Interplay decided would work best in terms of its chief motivation: sales. "I did have the concern that by using the *Baldur's Gate* name, it would have the connotation that it was a deep role-playing game, and it also implies a strong city connection," continues Chris. "To me, however, *Dark Alliance* was always presented as an action RPG title with minimal dialogue, which made sense."

"DARK ALLIANCE WAS ALWAYS PRESENTED AS AN ACTION-RPG TITLE WITH MINIMAL DIALOGUE"

Chris Avellone

To help develop the new title, Washington-based Snowblind Studios was contracted by Interplay, together with its impressive eponymous engine. "Like BioWare, they were an independent studio," says Chris, who worked with Snowblind closely during development. "I liked its studio director, lead programmer and everyone I met there. They were

» [PC, above] *Baldur's Gate II* contains some new faces in addition to old friends.

» [PS2, right] Kromlech the dwarf attacks a horde of undead in *Dark Alliance*.





» The BioWare team midway through the development of *Baldur's Gate*.

capable of developing the engine and tech where we couldn't do so internally." The Snowblind engine presented a top-down isometric view of the action, with a fully rotatable camera, and enabled two players to battle together within the game's locations. "It was pretty smooth, and multiplayer was fun and easy to hop in and out of," recalls Chris. "And this will sound crazy, but the water physics in the game made it fun just to run around in the water – you could literally boot up a level and have fun jumping and running circles in the water." Unfortunately, for many *Baldur's Gate* fans, the payoff was a plot and characterisation that was as shallow as many of the puddles that were so enjoyable to jump into, with little motivation or story behind its three lead characters. Black Isle, as with the other games, supported development where it could, as Chris explains. "Our support for *Dark Alliance* was largely me on narrative production and QA. In short, I made suggestions, but mostly worked on the script."



» James Ohlen has recently left BioWare to work on a *D&D* book.

Dark Alliance is the tale of three adventurers, each with unique abilities and weaknesses. Human Vahn is an archer, adept at eliminating enemies with his enchanted arrows, yet weaker at melee combat. Adrianna is an Elven sorceress, with the ability to unleash devastating magical attacks, while Kromlech, the obligatory stout dwarf, delights to engage in hand-to-hand combat, preferably with a battleaxe or mountainous sword. Each character must take on the Dark Alliance, a mass of evil created upon the death of Eldrith The Betrayer, a Sword Coast

ITEMS OF POWER

Don't go adventuring without these

ANKHEG ARMOUR

■ Forged from the shell of a giant Ankheg, this suit is as strong as plate mail, yet as light as leather armour.

BAG OF HOLDING



■ For those adventurers obsessed with loot, this magical bag is a must given it can stack an amazing 100 items inside its soft folds.

ELIXIR OF HEALTH

■ This ubiquitous brew restores precious hit points in an instant, making it a vital addition to any adventurer's backpack.

WAND OF MAGIC MISSILES

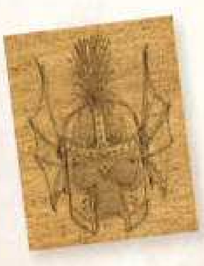


■ This trusty wand can be used by any class, making it a good alternative to ranged weapons for rogues or clerics.

ROD OF RESURRECTION

■ Has Minsc gone off and got himself killed again? No problem! One wave of this rod and any deceased party member is brought back to life.

HELMET

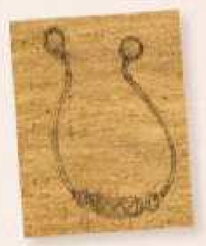


■ Coming in all shapes and sizes, helmets offer little in the way of AC. They do, however, protect against critical hits, meaning warriors should always wear one.

MAGIC RING

■ Carry more loot! Move faster! Look like you're wealthy! All of this and more can be yours, with a band imbued with potent magical properties.

SLING

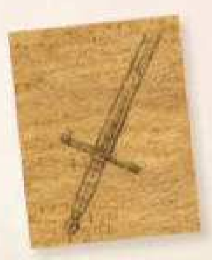


■ Wizards aren't exactly fond of hand-to-hand combat, but they can't use bows either. Answer: this nifty sling for when the spells run out.

COMPOSITE LONGBOW

■ Stronger and more flexible than a standard longbow, these are essential for taking down enemies at a distance.

BASTARD SWORD



■ The 'sword-and-a-half' can be used one-handed, leaving the other hand free to wield a shield for some extra protection.

INFINITE WISDOM

How to spot an Infinity Engine game

VIEWPOINT
■ The isometric view quickly became the calling card of any Infinity game, utilising a sliding bitmap technique in order to allow beautiful and unique worlds.

CHARACTER PORTRAITS
■ In *Baldur's Gate*, these character portraits rightly became adored by fans, such is the life behind them. Their edges highlight whenever a character is interacting.

MENU SHORTCUTS
■ There's a plethora of options under the hood of every Infinity Engine game, and they can mostly be accessed using these shortcuts on the game screen.

STATUS RINGS
■ These rings below each character gave a handy indicator as to their status. For example, when under attack they turn red, when panicked, yellow, and so on.

DIALOGUE BOX
■ This window is where all the dialogue and interactions take place. It also updates statuses, and can be set to one of three sizes.

» [PS2] Spectacular spell effects are an impressive feature of Snowblind's *Dark Alliance* engine.



» [PS2] Arcane Archer Vahn fires off a clutch arrow at some evil lizard men in *Dark Alliance*.

> "DARK ALLIANCE TAUGHT ME THAT TRYING TO FINISH YOUR WORK EARLY AT BLACK ISLE JUST OPENED YOU UP TO MORE REVISIONS"
>
> Chris Avellone

commander tainted by the poison of foolish pride. In a maddened frenzy, Eldrith gathered her forces to attack Baldur's Gate, a vainglorious attempt to seize the walled city. It failed, and with her dying breath she cursed it, and all who lived inside. Now, as one or two of the three characters, the player must take on the perils of Baldur's Gate and save the city from the resurrected evil of Eldrith and her devilish Dark Alliance.

The story of *Dark Alliance* serves to move the action swiftly from one location to another, with frequent pit stops at the city itself, usually to rearm and flog all the spoils from the various battles. Gameplay is streamlined so that the experience rarely became onerous. Recall potions allow the player to warp straight back to the Elfsong Tavern where they can sell items and weapons, pick up new gear and learn of potential new missions. Each location presents a linear procession from one point to another, killing anything in the way, and saving at the frequent save point altars. The game's simplicity (which also includes a truncated level-up system) nonetheless hit the spot with console gamers more orientated towards action-heavy games. "The story wasn't balanced well," bemoans Chris, "with too much coming out towards the end. But even though I wasn't happy, it could have been worse. *Dark Alliance* taught me that trying to finish your work early at Black Isle just opened you up to more revisions. I remember writing a pass of the storyline, being pleased with it, then suddenly the studio head and others at Interplay began a series of bizarre suggestions about what they thought would work story-wise." In the case of *Dark Alliance*, there's no doubt that the tenet 'less is more' applies. Its levelling up, frequent battles (even more fun in co-op) and looting require just a loose framework of story to hang on over its relatively short running time. "I thought there were just enough levels to make each new area you encountered exciting without the player getting exhausted of the area you were just at," notes Chris. "I think if we'd dragged out the environment levels, people would have gotten tired of them."

The success of *Dark Alliance* on the PlayStation 2 led to subsequent releases on the Xbox and GameCube. While these differed little – the Microsoft console improved the visuals slightly, with the latter console going the other way – the Game Boy





» [PC] Examining some steampunk machinery in *Baldur's Gate II*.

» [Xbox] Like most RPGs, you'll start off fighting fodder like goblins in *Dark Alliance II*.

Advance port three years later offers a substantially different experience. Gone is the, frankly unnecessary, jumping mechanic, along with the experience meter, and most of the game's conversational choices. Smaller levels and a more interactive Baldur's Gate (the player can talk to most of its populace, and even take on minor side missions for them) help make this version just as enjoyable, despite its brevity. Only the lack of recall potions and character choice counts against it, although the ability to save the game whenever you want to is a welcome addition.

Dark Alliance was a big enough hit for Interplay to commission a sequel on the PlayStation 2 and Xbox. Released in 2004, *Dark Alliance II* took the safe path of virtually retreading in the steps of the first game, with a few minor enhancements. With Chris Avellone busy elsewhere (most notably on Snowblind's *Champions Of Norrath*), David Maldonado took the lead design reins as Black Isle Studios developed the sequel, albeit not in total agreement with Snowblind, as a lawsuit (presumably concerning licensing issues with its self-titled engine) was brought against Interplay. Set not long after the events of the first game, *Dark Alliance II* sees Baldur's Gate and its surrounding areas once more in the grip of fear. Eldrith and her Onyx Tower may be history, but the three heroes who defeated her have disappeared, and further dastardly enemies stalk the land. Once more, a band of adventurers make the journey to Baldur's Gate seeking fame and fortune, and perhaps also to discover the fate of their forebears. Cleric of Helm, Allessia Faithhammer, treasure hunter dwarf Borador and mysterious moon elf Ysuran Auondril are three of the five characters that can take this mission to rid the land of its troubles.

Despite proud assertions of a new direction by Black Isle producer, Kevin Osburn, *Dark Alliance* delivered a startlingly familiar experience to its predecessor. The game's engine was as elegant as ever, with some minor improvements in environment interactivity. New monsters, weapons and missions were a given; how these would differ, and be used differently, to the first game was what counted, and here there was little change. Of course, this was not necessarily a bad thing, and given its strong sales, it's clear fans were quite happy to lap up more of the same. And the game did at least offer some flexibility and variety with its workshop feature, where characters could take base weapons and modify them with rune stones and other various gems to create magical weapons.

Yet it's impossible to look at the release of *Baldur's Gate: Dark Alliance II* without considering the background turmoil at the time. Interplay, bought out totally by Titus Interactive in 2001, was struggling, as was its new owners, whose solution was to begin shutting down its various satellite studios, including, eventually, Black Isle. By the time of *Dark Alliance II*'s release in 2004, the studio was practically no more. Chris Avellone had already left Black Isle in 2003, disenfranchised with the cancellation of *Baldur's Gate III*, but still has fond memories of the entire *Baldur's Gate* franchise. "I think *Baldur's Gate* and *Dark Alliance* captured and delivered on a nostalgia and absence in the market," he notes. "People had played the SSI Gold Box games and loved them, but there wasn't anything to replace them…until *Baldur's Gate* happened. It wasn't just a good game, it tapped into the vein of nostalgia, and really connected with it." For designer James Ohlen, the first *Baldur's Gate* in particular proved a massive learning curve for the fledgling developer, but a valuable one nonetheless. "All of us were learning, and we were learning from each other, and from Black Isle, who had more experience than us. It helped form what I know about videogames today."

Today, the *Baldur's Gate* series lives on thanks to former BioWare programmer Cameron Tofer and his company, Beamdog. By releasing the enhanced versions of the original games, along with the other infinity engine titles, and related games such as *Neverwinter Nights*, Beamdog has capitalized on the same nostalgia that made *Baldur's Gate* such a success in the first place. Tuned in to work on modern hardware, there's never been a better time to rediscover the world of *Baldur's Gate*. So what are you waiting for? There are evildoers who need their arses handed to them! Adventurers, roll for initiative!



» [PC] Beamdog's *Enhanced Edition* of *Baldur's Gate II* released in 2013.



neGcon Fact

■ The neGcon is also compatible with a very small number of PlayStation 2 games, including *Ridge Racer V*, *WipEout Fusion* and *Tokyo Road Race* (known in Japan as *Battle Gear 2*).

neGcon

» PLATFORM: PLAYSTATION
» RELEASED: 1994
» COST: £44.99 (LAUNCH), £10+ (NOW)

Namco's home conversion of *Ridge Racer* on the PlayStation was pretty incredible, but it did have one notable disadvantage compared to the arcade experience – the standard PlayStation controller. Before Sony embraced analogue thumbsticks and rumble to create the DualShock, you were stuck with digital steering. Though the handling model had been adjusted well to compensate, Namco still felt that greater precision was needed.

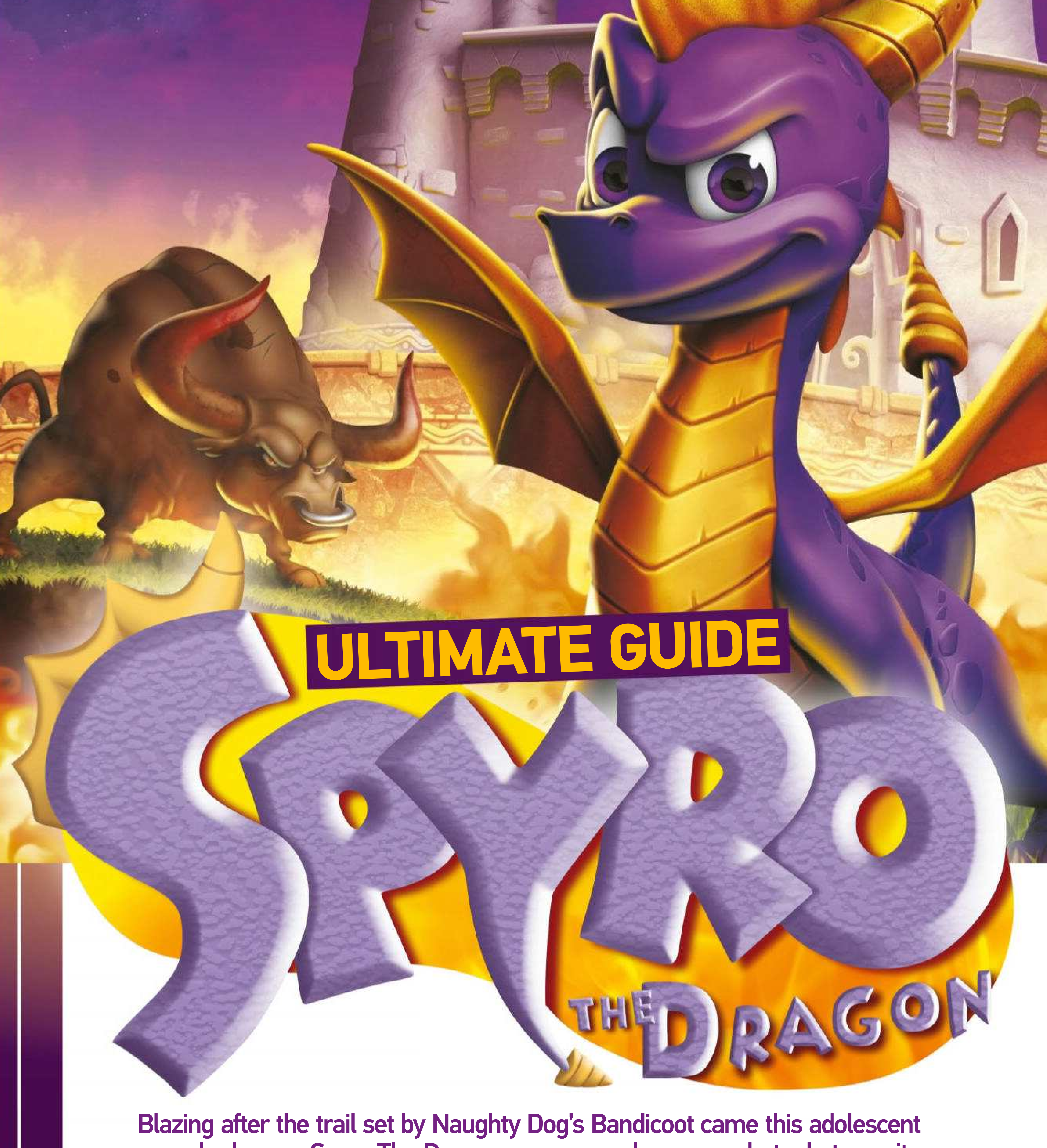
To remedy this, Namco made the neGcon. The controller offers most of the same buttons that would be found on a regular PlayStation controller (the exceptions are the select button and two shoulder buttons), but one shoulder button and two face buttons are now analogue inputs. But the big change comes with the twist functionality, which allows for analogue steering in racing games. This unusual method of control takes some getting used to, but some players swear by it.

The neGcon standard was adopted by a number of developers including Sony itself, and early PlayStation steering wheels adopted the neGcon protocol to provide analogue control. The controller was popular enough that Namco later released a smaller revised version, which is distinguished by its black casing, but ultimately became somewhat redundant when Sony introduced its own analogue controllers as standard pack-ins with the PlayStation. *



ESSENTIAL GAME WipEout

Psygnosis' futuristic racer is a famously unforgiving game, bringing your craft to an almost complete stop if you so much as look at the side of the track the wrong way. As a result, you need every advantage you can get, and while the analogue buttons don't make much of a difference, the analogue steering of the neGcon allows for the kind of subtle course corrections you'd be wary of making on a standard digital controller. Some players like it so much they've even hacked together ways of using it on later entries in the series like *WipEout HD*.



Ultimate Guide: Spyro The Dragon

Blazing after the trail set by Naughty Dog's Bandicoot came this adolescent purple dragon. Spyro The Dragon was a smash success, but what was it that made the game such a firestarter?

Words by Adam Barnes



The concept of the third dimension understandably doesn't seem so alien to us nowadays. While it's come full circle and now pixel art is seeing a resurgence in seemingly every other new indie game released on Steam, back when the PlayStation was causing a ruckus it was 3D graphics that was all anyone could talk about. Genres were being torn from their traditional, two-dimensional perspectives and thrust into the black fog of early 3D. Almost overnight, gaming had once again become a frontier, and inventive ways of gaming were being adopted and adapted with practically every new release. While Spyro wasn't the spark that caused the explosion, the fiery character certainly helped keep it ablaze after the likes of *Super Mario 64* and *Crash Bandicoot* had already begun to popularise the concept of the 3D platformer.

In fact, there are close ties between Naughty Dog's destructive orange mascot and that of Insomniac Games' purple equivalent. It began with *Disruptor*, an impressive, if overlooked, cinematic shooter developed by Insomniac. Though it hadn't sold well, publisher Universal – which had also worked with Naughty Dog on *Crash Bandicoot* – was impressed enough to go ahead and commission a second game from the young studio. The focus on dragons for the next game was there from the very start thanks to studio artist Craig Stitt and his fondness for the mythical winged lizards. The ability to fly was a big boon for the game, since it added a whole extra layer to the 3D platformer genre ▶

"While Spyro wasn't the spark that caused the explosion, the fiery character helped keep it ablaze"



Remastering Spyro

Toys For Bob's design director, Toby Schadt on resurrecting Spyro's first three games

Why have you decided to focus on the original PlayStation games?
Because it's the classic trilogy that started it all! There are a variety of reasons as to why now is the right time to remaster the first three *Spyro* games, but the most important is the fans. The love and appreciation for Spyro hasn't gone away, and we wanted to create a love letter back to the fans with this remaster that unleashed the dragon in a significant way.

What technical challenges have you faced?
The team didn't have any of the code from the original games, which of course presented a challenge. To get around this, we built a tool dubbed 'Spyro-scope' that helped the team to map the original games to allow us to rebuild the remaster from the ground up. This means that each level in *Spyro Reignited Trilogy* is mapped faithfully from the originals. The characters are creatively reimagined with additional flair allowing fans to rekindle the fire with Spyro and his crew like never before.

Is there anything you've had to update from a gameplay mechanics point of view?
Because we wanted to create a love letter back to the fans that reminds them why they fell in love with gaming in the first place, we focused our efforts on a few key areas of the trilogy. First, the controls: fans will experience the iconic platformer with smooth controls and modern flourishes that will enhance the exploration, collection and discovery. Core elements as fundamental as controllers have changed so much since the PlayStation days, so we wanted to honour the original experiences while making the gameplay feel natural in today's gaming landscape. Then graphics, which we wanted to recapture the stunning, lush, and fiery environments. And lastly the experience: the *Reignited Trilogy* captures that same adventure and wonder of the original three games and goes beyond what fans remember with remastered environments, characters and musical score!

What's it like working with the voice actors?
Fantastic! It's been great to work with them, and fans of the *Spyro* games may recognise some familiar voices such as Tom Kenny, the original voice actor in *Spyro 2: Ripto's Rage* and *Spyro: Year of the Dragon*. He's back as the voice of Spyro in the *Spyro Reignited Trilogy*.

Our readers crave physical releases. Why are the second two games in the trilogy digital-only?
The development team has put incredible care and effort into the game to make sure it not only lives up to fans' expectations but also to their own incredibly high standards. Each of the games in *Spyro Reignited Trilogy* has dozens of expansive levels. A day one patch is needed for those who have purchased the trilogy via the physical disc. From a development standpoint, all 100-plus levels and 400-plus characters in *Spyro Reignited Trilogy* were hand-crafted and built from the ground up.

Does working on other people's games feel restrictive in what you can and cannot change?
When Toys For Bob set out to make an awesome game collection, there were certain design decisions that needed to be made throughout the process. The team remained committed to keeping the integrity and legacy of *Spyro* that fans remembered intact. Toys For Bob's goal was to ensure that the Spyro in *Spyro Reignited Trilogy* remained faithful to the Spyro that fans remember when they first fell in love with the franchise. The studio leveraged in-house *Spyro* aficionados to ensure key details from the original games were faithfully implemented into *Spyro Reignited Trilogy*.


» [PlayStation] Each of the worlds had their own aesthetic and purposefully avoided familiar level tropes like 'ice world' or 'fire world'.

▶ that didn't really exist previously. Just think of Mario's winged cap in *Super Mario 64* and how that brief burst of three-dimensional freedom just felt so thrilling. Spyro would have that freedom permanently and would be designed with flight in mind.

But in fact the initial style of the game was completely different. Despite the desire to create something more lighthearted than *Disruptor* – hence the push for a dragon – the look of this platformer still leaned closer towards dark and gritty. The inspiration, in fact, was 1996 flash-in-the-pan movie *DragonHeart*, with Insomniac wanting to capture a similarly sombre approach to fantasy. Spyro was initially to be named Pete – as hard as that might be to imagine – a comically pedestrian name, and one associated with a 1977 movie, that may well have been intended to be taken seriously but was supposed to be a mythical *dragon* and all that entails. The change came about fairly early on in development, with guidance from Mark Cerny – who was then working at Universal Interactive – to change direction to something more family friendly. The reasons were many, but primarily it was to target a younger demographic in a bid to take a slice out of Nintendo's domination. Mark never quite forced the change, but was eager to see Insomniac switch tact after noticing that the PlayStation was targeting an older audience than the N64, and that the space for a high-quality family friendly game was waiting to be filled. Pete became Spyro and a more colourful, Disneylike tone was adopted.

Mark's input didn't stop there, though. The executive producer had the idea for a panoramic 3D engine, essentially meaning large open environments that didn't suffer from the same dark fog that so many PlayStation games did. It was up to Insomniac's Alex Hastings to make this dream happen, however, who resorted to assembly language – which was rarely used, even at the time – for the majority of the coding. And in fact *Spyro*'s engine would become quite inventive, essentially using two separate engines: one to render the distance

in lower polygonal quality and one to render the closer spaces in much better detail, transitioning between the two seamlessly as and when they were needed. Nowadays this is a common technique to maximise visual fidelity, and back then Insomniac was something of a pioneer with this tech. This engine would become an integral part of the game's design and would allow players to see far into the distance a help to ascertain the gaps that they were looking to glide across. Without this engine powering the game, *Spyro The Dragon* would have had to be a different experience entirely; there would have been no option for floating islands with secret treasure or long distances to traverse as part of platforming. Even the bright, cheery tone would've felt more oppressive and grim if it had suffered the same dark fog of early 3D and likely not have become the popular PlayStation mascot it ultimately ended up being.

Of course this would have all been for nothing if the character of Spyro couldn't match the qualities of the environments. For that, Charles Zembillas took control ▶

» [PlayStation] A subtle, but brilliant, addition to the engine was how even if a gem wasn't rendered in the distance, its glimmer could still be seen to entice the player.

"Spyro's engine would become quite inventive, essentially using two separate engines"

Meet the cast

The colourful creatures you will meet around the Dragon Realms

SPYRO



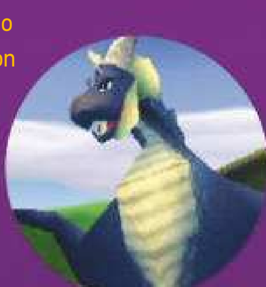
Feisty and fiery, Spyro has just enough attitude to make him likeable, but the right amount of heart to become the hero. He's young, too, which means he's not quite the powerful dragon that he could grow up to be.

SPARX



Tagging along with Spyro, the two became close friends after the purple dragon rescued Sparx from a bird. The dragonfly has a fondness for butterflies, but also protects Spyro from harm - essentially acting as a life meter.

LINDAR



You could say that it was Lindar who caused all the dragons in the Dragon Realms to be turned to statues, since his interview with DNN – Dragon News Network – in the opening taunted the game's villain by saying he was "no threat", and that he was "ugly".

THE BALLOONISTS

Without the wingspan of a full-grown dragon, Spyro can't do much more than glide. As such, he should rely on the various balloonists of the world who can take him to different homeworlds – once certain requirements are met, of course.

THE DRAGONS



There are 74 different dragons to be rescued throughout the game (with six of them being rescued twice, actually), each offering either a pearl of wisdom to help the player understand the game's abilities, or just an opportunity for Spyro to talk smack to his elders.

TOASTY

Toasty is said to be one of Gnasty Gnorc's most devious henchmen. The truth is, however, it's just a sheep in a contraption, likely exacting revenge for the punishment the fluffy livestock have had to endure from dragons over the years.

GNASTY GNORC



The game's villain, Gnasty Gnorc was exiled after he tried to steal the dragons' treasure. He then enacted a plot to exterminate the dragons – which he would've gotten away with, too, if it wasn't for that pesky Spyro.

The DNA of a dragon

What elements went into the plucky young dragon that made him an enduring success?

This tuft of horns is a great design choice, almost as though the designer had styled them as a fauxhawk – just like any teenager would with their hair.

A great deal of time was spent on animating Spyro, with his raising and lowering eyebrows in particular helping to give him that cartoonlike feel.

The ability to breathe fire was always going to be a part of Spyro's draconic skillset, but it became such an iconic feature of the character.

Dashing was another innate ability of Spyro's, one that was enhanced in certain stages that allowed him to burst forwards at incredible speeds.

The way that Spyro slightly turned his head and the camera zoomed in close while he dashed really created a sense that you were steering a rampaging creature.

The unlimited, unrestricted freedom to glide as part of an inherent character moveset was a first for the 3D platformer, a necessity when the main character is a dragon.

Early on in development, Spyro was green, but with so much of the game's environments covered in grass it was tough to distinguish the character from the ground.

Naturally, you'll most commonly see Spyro from the back, so the added details from this view - the tip of the tail, the undulating scales – make him just as interesting to look at.



» [PlayStation3] In 2011 Spyro headlined a new game called *Skylanders: Spyro's Adventure*, which featured cute toys figurines that could then be used in the game.

▶ of the initial design, brought on because of his work creating the look of *Crash Bandicoot* – Naughty Dog and Insomniac were both close developers, physically and socially. This was how the Disneyesque look was formed, with Charles' concepts used to define both the appearance of Spyro and his various cohorts, but also the animations the characters used to express that cartoony vibe. It was Kirsten Van Schreven that would take control of the design of the different worlds, however, and she saw fit to shake up the tried-and-true formats that platformers usually came with at the time. Gone were the concepts of the snow stage, the desert stage, or the jungle stage, and instead a much more original style that was all the more mystical and in keeping with the fantasy theme was implimented. The starting world of Artisans, for example, was a fairytale landscape, while the second zone, Peace Keepers, provided a more battleworn environment. It was unique, and only helped Spyro stand out all the more.

But more than that, *Spyro The Dragon* shunned traditional stage-by-stage platforming gameplay in favour of something more akin to *Super Mario 64*'s level of choice. Rather than leaping into pictures, however, Spyro would travel through a warpgate – with a neat effect of seeing a 2D plane projecting the skyline of the destination – to travel without noticeable loading screens to individual stages. The openness of its gameplay was unlike anything seen on the PlayStation before and considering the technical stresses that ensued from this, Insomniac certainly didn't take the easy way out with *Spyro The Dragon*.

But then this was a developer looking to prove itself. *Disruptor* had been a 'successful' failure, proving the technical skills of the studio but struggling to garner any commercial acknowledgement for it. *Spyro*, conversely, was met with immediate positivity, releasing in 1998 to praise from most publications, a top-tier position in the sales chart (just below *Tomb Raider*, as it happens) and a space in the gaming mascots hall of fame. Ultimately going on to sell almost 5 million copies across the lifetime of the PlayStation, the character might have looked like just any another platforming mascot, but few games have had the lasting appeal of the purple dragon. And while Insomniac Games has since outgrown the series, the demand to see them back in the driving seat of the franchise never really went away. Perhaps if Spyro's revitalised new look turns out to be a winner, that's something that fans might just get to see. *



» [Playstation] While the original didn't put as much emphasis on story, you still got a sense of the young, cheeky Spyro.

» [PlayStation] Some stages allowed Spyro to take flight. They were fun distractions, and compelling to gamers looking to 100% the game.

Dragon's Age

From young dragonling to aging platform mascot, Spyro's lived a long life...



SPYRO 2: GATEWAY TO GLIMMER/RIPTO'S RAGE

Riding on the success of the original meant Insomniac had cause to polish the weaker aspects with this 1999 sequel. The overall design remained mostly the same, but with a greater emphasis on story and characters that was admittedly lacking in the previous game.



SPYRO: YEAR OF THE DRAGON

The third and final of the original PlayStation trilogy released in 2000 was also Insomniac's last of the franchise before the studio moved on to new projects. It brought with it a heap of new mechanics, key among them being the ability to play as different characters.

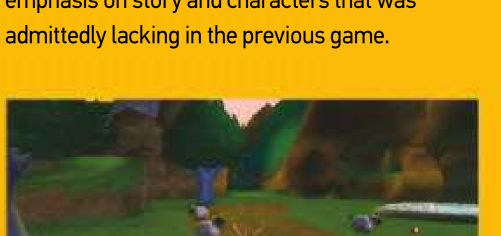


SPYRO: SEASON OF ICE

With the success of a Spyro trilogy firmly established on home consoles, Universal saw fit to push the teen dragon a little further, handing the reins to new series developer Digital Eclipse and transitioning the series over to a handheld system for the first time. *Season Of Ice* released in 2001 on the Game Boy Advance.

SPYRO 2: SEASON OF FLAME

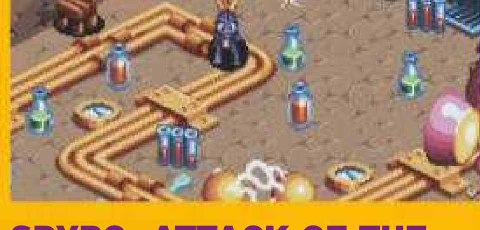
Following up in 2002 was the obviously-titled GBA sequel, *Season Of Flame*. The game leveraged the same isometric viewpoint and was critically well received. Though it didn't sell quite as well as its predecessor, the two were fairly popular – selling a combined 1.5 million copies.



SPYRO: ENTER THE DRAGONFLY

2002 also saw the release of the first console *Spyro* not restricted to a Sony platform. Released on GameCube and PS2, Check Six Studios and Equinox Digital were pressured to release a game in time for Christmas, and the move to new tech meant it suffered from a lot of flaws.





SPYRO: ATTACK OF THE RHYNOCS

This was the third of the GBA trilogy, releasing in 2003, and again developed by Digital Ecplise. It followed the same template as the original two GBA games with the same isometric viewpoint, but it was the last *Spyro* game to be released under the Universal brand.



SPYRO ORANGE: THE CORTEX CONSPIRACY

Crash Bandicoot and *Spyro* had enjoyed a friendly rivalry – Naughty Dog and Insomniac would play each other's games. This culminated in another GBA *Spyro* game, a crossover title released in 2004 that featured Crash's nemesis Neo Cortex as the main antagonist for Spyro.



SPYRO: A HERO'S TAIL

Developer Eurocom – which had already developed PS2 and GameCube games for *Crash Bandicoot* – was brought on board with this 2004 release. It leveraged the open world nature of the series by adding in slight *Metroid*-like progression, requiring backtracking in a manner far beyond the hunting for hidden gems.



SPYRO: SHADOW LEGACY

Despite releasing only on Nintendo DS in 2005, this game takes place after the events of *A Hero's Tail*. Developer Amaze Entertainment leveraged the touchscreen capabilities of the DS handheld by empowering Spyro with spells, which were activated by drawing the necessary symbol on the console's bottom screen.



THE LEGEND OF SPYRO: A NEW BEGINNING

This 2006 entry was the start of a supposed reboot – a new trilogy for the franchise with Krome Entertainment at the helm. This was more combat-oriented than any other game in the series and featured Gary Oldman and Elijah Wood as voice actors.



THE LEGEND OF SPYRO: THE ETERNAL NIGHT

Futurama's Billy West replaced David Spade as the voice of Sparx, but it was otherwise business as usual for the second part of Krome's new trilogy. Interestingly, the GBA game (by Amaze Entertainment) is a standalone 2D adventure with *Metroid* influences and a solid combat engine.



THE LEGEND OF SPYRO: DAWN OF THE DRAGON

Though the new trilogy offered a sense of growth to Spyro as a character – here he was a teenager – none of this improved the quality of the game. Despite this clever concept of having Spyro grow throughout the three games, the reception of these titles saw the end of the core *Spyro* games.



THE MAKING OF TRESPASSER

When you want to know what went wrong with one of the most hyped games of the Nineties, you go to the source. Seamus Blackley tells us about the trials, tribulations and triumphs of Trespasser

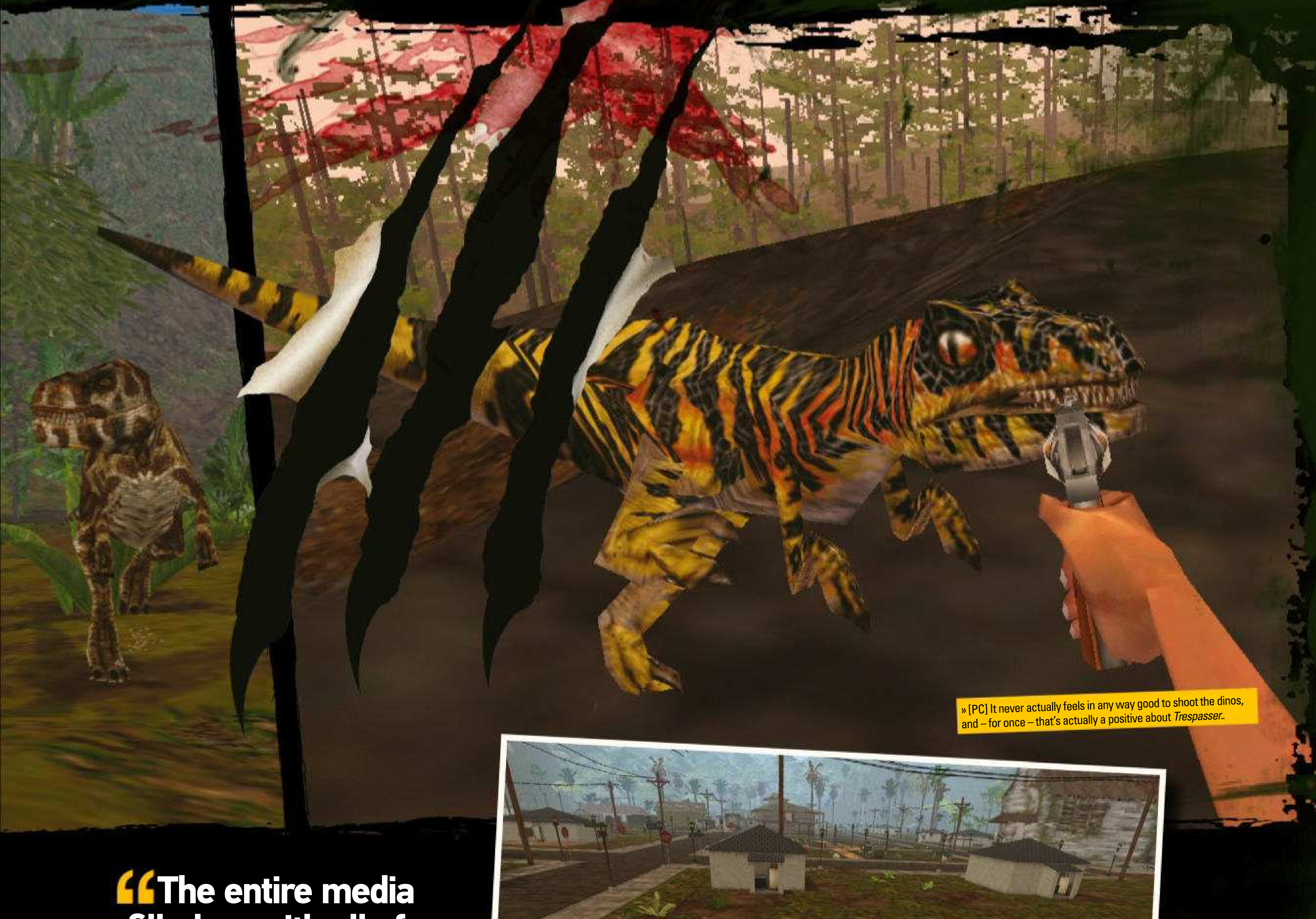
Words by Ian Dransfield, interview by Nick Thorpe

IN THE KNOW

» **PUBLISHER:** Electronic Arts
» **DEVELOPER:** DreamWorks Interactive
» **RELEASED:** 1998
» **PLATFORM:** PC
» **GENRE:** First-person shooter

Seamus Blackley has had an extremely successful career – a programming prodigy with physics engines, a career as a Hollywood agent, the man credited with being the brains behind the original Xbox. He's done a lot, and he has a lot to be proud of. But 2018 is the 20th anniversary of the one major black spot on the man's resume – so it's something we had to talk to him about. *Trespasser* – a *Jurassic Park* tie-in not based directly on a film, starring Hollywood talent, offering an open world to explore, and featuring an advanced, cutting edge physics engine… was one of the most notoriously poor games ever released.

"We had written this beautiful software renderer," Seamus tells us, "And right when we were ready to release, the entire media filled up with all of these crazy, unrealistic promises about the future of hardware. The first 3DFX chip came out at that time, which, of course, was completely incompatible with this elegant software solution we had for drawing our forests. People would plug in the hardware and it didn't work because of how… it just *couldn't.* But people didn't know anything about 3D graphics. It was still the phase where the



» [PC] It never actually feels in any way good to shoot the dinos, and – for once – that's actually a positive about *Trespasser*.

» [PC] The open world approach allowed creative solutions to problems like multiple raptors and no guns. Namely: hiding on a roof.

"The entire media filled up with all of these crazy, unrealistic promises"
Seamus Blackley

magical computer would make everything right, and when it didn't, we took the hit. Yeah, it was a hell of a thing, *a hell of a thing*. Plus I just cocked it up magnificently as a leader, so there's that also."

Rewinding a bit, it's safe to say dinosaurs weren't the plan – after playing a lead role in the creation of Looking Glass's *Flight Unlimited* in 1995, Seamus wanted to move on to a combat version of the game: "[I wanted to] be clever and do something else [*Microsoft Flight Sim*] couldn't do, because we beat them the first time by making the airplanes fly properly, and then we could beat them a second time by making an F-16 and showing combat properly." New management – thanks to new money – had appeared at the top of the studio, however, and its plan was to get Seamus to make more of the same. He disagreed, he resigned (some accounts say he was fired), and after a time he ended up in the employ of one Steven Spielberg's DreamWorks Interactive. The movie company with a games division was a different flavour for Seamus, and from the very beginning his enthusiasm to work on a game based on *Jurassic Park* wasn't exactly present.

"Back then it was very much the case that the film people really thought of games as a distraction or a toy," he says. "I had a different idea about that. I thought that this was an incredible storytelling medium, and I was very serious about it. I was actually very reluctant to make a game based on *Jurassic Park* because I had had success making games at Looking Glass that were their own stories.

"*System Shock*, *Underworld*, even *Flight Unlimited* were sort of a way of telling yourself a story, and I thought we had an opportunity here. Especially as I had innovated with these physics engines that I had written at Looking Glass, and I said, 'Listen, the idea of being able to tell stories in worlds where you can have emergent behaviour, where you could actually figure things out yourself and everyone might do something a different way, increases the power of our medium over movies.'"

The Nineties saw an explosion of studios making games aping the movies – the democratisation ▶

» After *Trespasser*'s development finished Seamus Blackley left DreamWorks Interactive for Microsoft to help create the Xbox.


» [PC] An epic battle between T-tex and Triceratops? Nah, more like a particularly bad Three Stooges skit.

“It was the most miserable thing professionally I could have ever imagined”
Seamus Blackey

of FMV thanks to the CD format saw to that in a big way. But Seamus – thanks to his time at Looking Glass – wanted a different approach: one about the player, their story, and making their own way in things. Something that now, 20 years later, sounds about right for most big FPS productions. Back in 1998 it was tantamount to mutiny.

The idea was to build a game around the concept of not strong-arming the player into doing anything specific. An overarching goal? Sure. A closed-in walkway littered with waypoints and instructions telling you precisely how many steps to take at any given time? Not quite. The concept was player agency and it was central to the entire idea behind *Trespasser*. “I wanted to build a team around that concept,” Seamus says, “It turned out that the deal of being at DreamWorks was that I could have the money to do that if all I did was *Jurassic Park*.”

It wasn’t long until the differences between working at a game studio with plenty of releases under its belt and a movie studio with a small games wing became apparent. Executives and management types with zero gaming knowledge got on Seamus and his team’s back almost from the get-go. A lack of understanding permeated, and relationships were often fractious – but the work continued. Slippages occurred, as they would with any ambitious gaming project, but there was little understanding forthcoming from the movie-centric DreamWorks management. All the same, development was chugging along, making progress, and with more time *Trespasser* was going to live up to the hype that Seamus had been whipping up in the games press. Enter AMD.

“We had the physics engine, we had the sound system for the search engine,” Seamus says. “We had an event-driven story that was going on that handled all sorts of permutations. We had actors for one of the very first times, playing new characters in a game. We had Minnie Driver. We had Richard Attenborough. And we took it very seriously. We tried to write a really good story that was deep and revealed more things about *Jurassic Park*.

“At that point, it was the biggest picture that had ever come out, and so Steven and Universal giving us the opportunity to do that was a big deal, and we took it seriously. It was very exciting… right up until we had this AMD deadline.”

Seamus doesn’t remember the specifics, but a deal was signed with AMD that tied *Trespasser* into a set release date. Funding was dependent on hitting this date, so no more delays could be factored in – whatever the game was by October of 1998 is what the game had to be. Seamus is adamant with six to nine more months banging out the dents and tuning it up, *Trespasser* would have been a totally different beast. That didn’t happen.

As per the AMD contract, in October 1998 *Trespasser* was released. Time has popped on the rose-tinted specs, and there’s a loyal, dedicated fanbase for the game still going strong to this day, doing wonderful things for it and banding together as a community like only truly great fans can. But none of that changes the fact that *Trespasser* was terrible. Near-enough broken, it had been hyped to ludicrous levels, released at the wrong time, rushed out the door, and left to rot in the cells after summary trial by public opinion. The game sold 50,000 copies, or thereabouts, and by all reasonable thinking should have been entirely forgotten by 1999. Yet here we are, still talking about *Trespasser*.

But why? Well, in short, it had some phenomenally good ideas for what could be in – what *should* be in – games of the post-arcade era. No lives and energy bars, no HUDs and onscreen hovering indicators, or scores and credits: just a realistic simulation of a fantasy setting, offering the sort of immersion you literally could not get in any other medium. *Trespasser* is still talked about because it brought together so many then-unique,

HIGH AMBITIONS

The games that were made infamous for the machines required to run them



OUTCAST

The buzzword surrounding this action adventure game was ‘voxels’, and the promises were sky high. While the original 1999 release was a solid title, it was crippled by the simple fact that most people couldn’t play it in anything resembling a decent fashion. A Pentium III with 128MB RAM just to play it at low settings? Most people would stick with *Half-Life*, thanks.



DOOM 3

It is shocking to think one of the John Carmack-headed id Tech engines was unfriendly when it came to system specs, but that was the case with the first game to use the id Tech 3 engine, *Doom 3*. It looked amazing and had truly spectacular lighting effects, but *Doom 3* demanded way too much from PCs.



WING COMMANDER III: HEART OF THE TIGER

A lot of chat focuses on *Wing Commander III*’s FMV sequences, but we shouldn’t forget the space combat sections. Featuring fully polygonal ships in a world pre-3D hardware acceleration, the game demanded a hell of a lot from the CPU. Unsurprisingly, few regular players had that kind of hardware to hand.



THE ELDER SCROLLS IV: OBLIVION

With a huge open world to explore, intelligent NPCs capable of deciding to do things of their own volition, and *those* views, it wasn’t exactly surprising when *Oblivion* launched to its fair few share of issues. Performance issues, lost saves, glitches, bugs – some charming, others worse – it still ended up an absolute legend.

now-standard elements and honestly tried to make something truly special out of them. It failed, sure, but we all know those who play god love a trier.

The immediate aftermath wasn't quite as considered, though, and the prerelease hype behind *Trespasser* had pushed it into a corner it had no chance of backing out of. It all turned into an experience that took Seamus many years to really move on from: "I was 27 or something," he explains,"And I didn't have any ability to stand up for myself and so I didn't, and it was the most miserable thing professionally I could have ever imagined. Shipping something for people to look at and evaluate, all your peers, that you know isn't done and doesn't quite work right – worse, something that's trying to innovate in a bunch of ways – if it's not working right, might just stomp on that innovation. That's what *Trespasser* did."

But hindsight is a powerful tool. Coming to terms with the project and the changes it forced Seamus to go through personally and professionally have left the man in what seems like a better place – as well as a place where explanations behind *Trespasser*'s many failures make sense. "There was no 3D hardware when we started the project," Seamus says. "There was no idea there ever would be 3D hardware. The 3D hardware that existed was made by Silicon Graphics and was built in

» [PC] The detritus of what was there before on Site B is sometimes captured well, but most of the time the island's just empty.



» [PC] On the list of more egregious failings on *Trespasser*'s part, this doesn't rank highly. But it is *very Trespasser*.

» [PC] There's an ever-so-slight feeling of *Half-Life* about *Trespasser*, though comparisons between the two never fare well for the latter.



UNREAL

■ It sold plenty, and ended up being the foundation on which Epic built an empire, but at launch *Unreal* was hamstrung by one simple fact: to get it looking as good as you would been promised it would look, you needed to remortgage your house to afford a PC capable of running it. This actually worked in the game's favour, in hindsight.

FORGOTTEN CONTRIBUTIONS

It's easy to poke fun at Trespasser for what it did wrong, but it was a game of many innovations



PHYSICS

■ *Trespasser* laid it on thick with the physics and introduced many a problem that could be solved by the power of actions with equal and opposite reactions. A lot of it was glitch, plenty had to be dropped, but it was definitely a trailblazer for in-game physics.



THE ARM

■ After the initial wave of virtual reality petered out, there was still an urge to let us interact with game worlds realistically. *Trespasser*'s arm, controlled by the player, was an attempt to increase the immersion – something being revisited in current VR games. In this dino-game, though, it was *terrible*.



OPEN WORLD

■ First-person games – in fact, most games – weren't open world when *Trespasser* came out in 1998. The ambition – the scope – was and still is impressive, and it's one of the game's strongest areas 20 years later. The world may be sparse, but there's always a degree of wonder conjured by exploring the unknown.



NO HUD

■ Well before *King Kong* took all the plaudits for doing away with the intense levels of onscreen information, *Trespasser* hid all the details away in things like Anne saying aloud how many bullets are in a gun, or… well, the health meter being a heart tattoo on her chest. Sigh.



SPINNING OFF

■ We can't claim this to be true for all of them, but move tie-ins of the Nineties tended to be hasty cash-ins based roughly on the plot of a film. *Trespasser* bucked that by being entirely its own thing, and almost dropping the *Jurassic Park* name to an afterthought.



ACTING TALENT

■ Hollywood talent is ten-a-penny in games these days, but *Trespasser* knocked it out of the (Jurassic) park by getting Minnie Driver to star as player character Anne, and the first movie's Richard 'John Hammond' Attenborough reprised his role. That was big news in 1998.



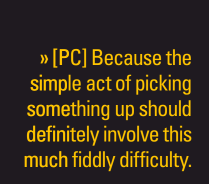
» [PC] Aiming with this wonky tentacle of an arm was difficult when things were calm, let alone when you've got a raptor in your face.

their machines that cost millions of dollars. There were some people working on graphics cards, and they released them and, if you recall, the first generation were crap and didn't work.

"We were doing texture mapping and all this stuff that had to do with that, and the reason that there wasn't was because making the graphics hardware that could deal with data in that way is difficult to do. We needed to draw the forest, and so we needed a very clever algorithm that could draw things we take for granted today, but back then there was no way. You know, we were on machines that had 4MB of RAM if they were really good."

Seamus admits he's amazed what the team was able to get working, even for *Trespasser*'s compromised release. "We had a game that could have been the whole future of games," he enthuses. "The way we talked about it was like that. I mean, maybe we should have been more conservative in promoting it, but we were excited. We thought we were bringing the future, and we had shipped games that did stuff – I'd shipped physics that were amazing and new and novel, and we'd shipped renderers that were amazing and new and novel in *System Shock*, and interactive storytelling. We'd done it, shipped it, got awards for it, and so we were really excited to do this."

But the parts didn't come together in time, the technology of 3D cards didn't interact well with *Trespasser*'s software solutions, and the whole thing just ended up the perfect mess. If we didn't know any better, it would almost seem like



» [PC] Because the simple act of picking something up should definitely involve this much fiddly difficulty.





THE LOST LEVELS

Areas in Trespasser that found themselves on the cutting room floor



PINE VALLEY

■ Famous as a level that neared completion before being scrapped, Pine Valley was actually used as the basis of *Trespasser*'s demo version before it was released. It ended up being pulled from the game, reportedly owing to the number of bugs in some puzzles in a geothermal power plant the player would enter. Some modders have been hard at work restoring what they can of this little curio.



TEST LEVEL

■ Making its way to the final game, the Test Level survived a culling purely because it is just that – an area for the devs to mess about and try out all of their systems in a control environment. We the players are able to access it by using the level select cheat – though remember cheating is bad and you shouldn't do it – and there's actually a fair bit of fun to be had just shooting all the guns and playing giant dominoes.



PLANTATION HOUSE

■ This level – scrapped early on in *Trespasser*'s development – also included a huge, rolling, hidden valley for players to explore. It's a mystery why such a lovely area was dropped, though it's fair to assume a mix of performance hits and a lack of direction for the player were at least partly to blame. Plantation House was part of a demo released by Seamus a couple of years ago, so an early version is out there.

> **"I think a lot of the stuff was a good idea, and a lot of people would copy those good ideas and then made it work right"**
> Seamus Blackley

Dennis Nedry had sabotaged a few backends at DreamWorks on his way to buy some shaving foam. Nevertheless, as Seamus says, you don't ship something innovative unless it's perfect – and *Trespasser*, not to hammer the point home too much, was far from perfect.

But that wasn't down to a lack of ability or effort: "All of the guys who were able to do this were guys who had PhDs and master's degrees in electrical engineering and physics and math, because it's hard," Seamus says, "Not today, where you have an engine and you have a card, and everybody knows the card and how much memory and all this stuff and it's all solved."

The relative simplicity of utilising a physics-based engine in the creation of a modern game is worlds away from what the DreamWorks team had to deal with. Countless elements – rendering, clipping, ballistics, anything you can think of, it all had to be invented by Seamus and his coworkers. The end product might have been a rush-job, but the groundwork *Trespasser* laid didn't go unnoticed. Many post-1998 tiles owe a debt of gratitude to this high-profile failure.

"It's weird and screwed up," Seamus says, "I mean, I think a lot of the stuff was a good idea, and a lot of people would copy those good ideas and then made it work right. That's something that I think we're really proud of. Everyone on the team should be really proud of that, and I think they are...

"Now, that said, I was an idiot and I ran the team terribly," he continues. "I had been very successful at Looking Glass because we had guys around who would ship a lot of games, and when I went to build my new team in Los Angeles, I didn't have that structure around and I really needed it. I had been so successful there that I was arrogant, and I screwed up pretty badly. I made myself into the guy writing all the physics, which was a huge research project, and I did well. I got pretty far compared to the teams of people who did it later, and all by myself... but it was while I was also running a project. That's ludicrous. It was a horrible experience for the team to go through, I am sure.

"I learned a lot, and as a result we have Xbox, to be frank. I mean, that's the trade. Upset about *Trespasser*? Go play *Halo*."

It might sound like a joke, but Seamus is just being pragmatic here – *Trespasser* wasn't what it should have been, it was mauled by the press and public, sold very few copies, and contributed to the downfall of DreamWorks Interactive. It was, by all fair measures, a failure. But it added so much to the world of gaming both directly and indirectly – from the features borrowed by other titles, latterly turned into expected, base level elements that don't even raise an iota of surprise these days; through to Microsoft's entry to the world of console gaming. Without *Trespasser* and its huge, public failure, we probably wouldn't be in the situation we are today – Seamus recognises this, and is magnanimous about it all.

There is still a part of him, though, that looks back on *Trespasser* and wonders… what if? "It's pretty good to bookend things, you know? I had the experience of getting to bookend the Duke controller issue on Xbox, where we reissued a new Duke controller. That was one of the things I didn't enjoy about Xbox, but now it has a happy ending. I think the happy ending on *Trespasser* is that it's coming around. It's like Kipling said: 'Everything turns out all right in the end. If it's not all right yet, it's just because it's not the end yet…' or something like that."



KEVIN EDWARDS

From Acorn Electron to PS Vita, Kevin Edwards has coded for many classic computers and consoles. He takes time out from creating Lego games to discuss his long career, baseball and a familiar webslinger

Words by Andrew Fisher

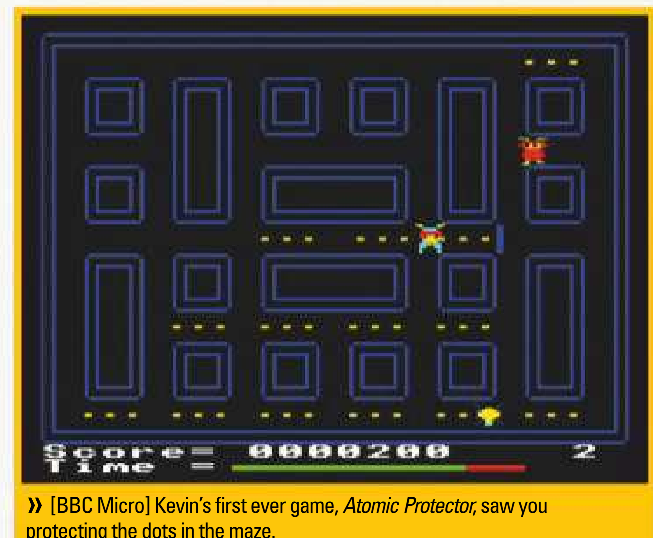
When we ask Kevin if there were any programmers he admired, he replies, "Anyone who has developed a game for home computers or the early consoles deserves praise and admiration. Development tools back then didn't exist or were crude, simplistic or unusable. You had to have a lot of patience and enthusiasm to achieve relatively simple tasks. Games were also written in machine code which required a lot of effort to do simple things." Did that mean he spent a lot of time crunching to finish a project? "I've spent more late nights finishing off games than I care to remember." Kevin has a clear passion for making games, so let's take a stride down memory lane and look at his career.

When did you first encounter a computer?
In 1979, when I moved to a new high school in Manchester. They had a Commodore PET 2001 with 8K of RAM, locked away in a storeroom and only accessed by a handful of people.

How soon did you start programming?
I spent all my spare breaks in that computer room. You couldn't keep me away from that PET! We had an amazing computer studies teacher, Pete Davidson, who encouraged us all. He was teaching us 6502 machine code at the same time as BASIC. My first PET games were in BASIC and I added machine code routines later as my knowledge improved. I started with simple maze games and later used machine code to scroll the screen left and right, like *Scramble*.

Your first commercial game was *Atomic Protector*, how did you publish it?
By 1983 Pete Davidson had left teaching and arranged some summer jobs for myself and school friend Martin Galway – we were studying for our A Levels. This was at Database Publications, a big computer magazine publisher, where he worked. We spent six weeks writing games and other software, including *Atomic Protector*, which was published by Optima Software – a company under the Database umbrella.

What did you like or dislike about the BBC and Electron hardware?
Not enough memory (both) and the lack of speed (Electron). 32K RAM was never enough and I would spend lots of time optimising memory usage to get the games to fit. *Galaforce* on the Beeb ran in Mode 2 which takes 20K of memory. That leaves only 12K for code, data, audio and graphics. It's actually less than 12K, as the operating system steals various blocks of this memory for its own use.



» [BBC Micro] Kevin's first ever game, *Atomic Protector*, saw you protecting the dots in the maze.

You worked with Martin Galway on those early BBC titles, what do you remember of him?
We were both super-keen enthusiasts that wanted to learn how to write software. Martin worked on a sound envelope editor for the BBC during our summer job at Database Publications. It allowed you to tweak the envelope and ADSR parameters in real-time. This was used to create sound effects for *Atomic Protector* – the first commercial game for us both. I don't remember the editor being published or distributed. However, it certainly helped start Martin's audio career. He worked on his own music driver and created several demos that eventually landed him a job at Ocean. I and other school friends used his audio skills in our early BBC games – including *Knight Lore*, *Alien 8*, *Cookie*, *NightShade*, *Galaforce*, *Crazee Rider*, and *Match Day*.



» Equipped with a 28MB(!) hard drive and coprocessor, this is Kevin's BBC Master 128 development machine.

How did your association with Superior Software start?
I was a freelance programmer working on a shoot-'em-up. The game was 80 per cent complete and I decided to approach a publisher to see what they thought. At the time Superior were the most active publisher for the BBC, so I sent a demo to them. They got back to me really quickly, were very helpful and gave me lots of useful feedback. We worked closely together for several weeks and shaped the game that became *Galaforce*. Richard Hanson and his team at Superior were honest and very professional – something that was important as there were some unscrupulous people in the industry at that time.

What was your development hardware like?
For *Galaforce* and earlier titles I used a single BBC Micro that assembled the 6502 source code and then ran the game. I used BBC Basic's built-in assembler

> "32K RAM was never enough and I would spend lots of time optimising to get the games to fit"
> Kevin Edwards



SELECTED TIMELINE

GAMES

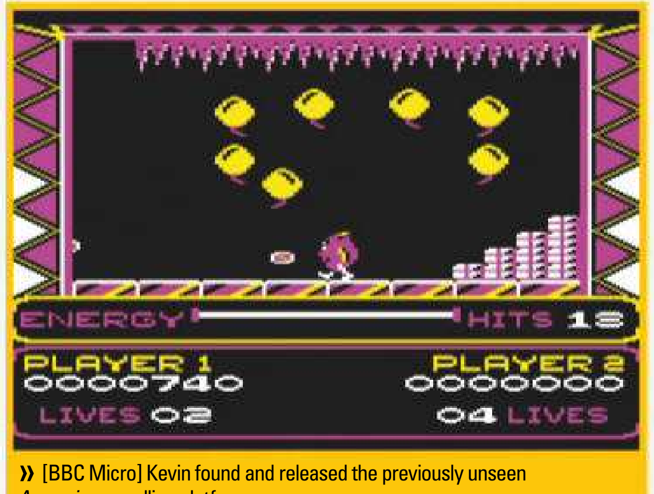
- **ATOMIC PROTECTOR** [1983] BBC MICRO
- **GALAFORCE** [1986] , BBC MICRO, ACORN ELECTRON
- **CRAZEE RIDER** [1987] BBC MICRO, ACORN ELECTRON
- **GALAFORCE 2** [1988] BBC MICRO, ACORN ELECTRON
- **MAGIC JOHNSON'S FAST BREAK** [1990] NES
- **SILVER SURFER** [1990] NES
- **WOLVERINE** [1991] NES
- **SPIDER-MAN/X-MEN: ARCADE'S REVENGE** [1992] SNES
- **PLOK** [1993] SNES
- **EQUINOX** [1993] SNES
- **SPIDER-MAN/VENOM: MAXIMUM CARNAGE** [1994] SNES, MEGA DRIVE
- **KEN GRIFFEY JR PRESENTS MAJOR LEAGUE BASEBALL** [1994] SNES
- **VENOM/SPIDER-MAN: SEPARATION ANXIETY** [1995] SNES, MEGA DRIVE
- **INCOMING FORCES** [1998] PC
- **INCOMING: THE FINAL CONFLICT** [2002] PC
- **X2: WOLVERINE'S REVENGE** [2003] XBOX
- **LEGO STAR WARS: THE VIDEO GAME** [2005] PC
- **THE CHRONICLES OF NARNIA: THE LION, THE WITCH, AND THE WARDROBE** [2005] PC
- **LEGO STAR WARS II: THE ORIGINAL TRILOGY** [2006] PC
- **JUICED 2: HOT IMPORT NIGHTS** [2007] PS3
- **LEGO ROCK BAND** [2009] PS3
- **THE LORD OF THE RINGS: ARAGORN'S QUEST** [2010] PS3
- **LEGO PIRATES OF THE CARIBBEAN: THE VIDEO GAME** [2011] 3DS
- **LEGO HARRY POTTER: YEARS 5-7** [2011] 3DS, VITA
- **LEGO STAR WARS III: THE CLONE WARS** [2011] 3DS
- **SPY HUNTER** [2012] 3DS, VITA

to create the machine code. The source was spread across multiple files which were loaded and assembled one at a time from disk using a simple overlay technique. For *Crazee Rider* and *Galaforce 2* I used a BBC Master 128 with turbo coprocessor and 28MB Viglen hard disk which was connected via the user port interface. This allowed me to build the game image very quickly on the Master 128 and deploy the game to the second computer for testing. The data transfer time was really quick – less than five seconds, if I remember correctly. This allowed me to edit source code and run images at the same time.

Did you just start coding, or would you plan it on paper first?
I love planning and writing code on paper first. It's very tempting to jump in and start coding straight away. But something I learnt early on is that you should never rush things without thinking first. Sit down and plan with the big picture in mind, not just the little thing you have in your head at that moment. I have lots of notes for *Crazee Rider* which includes handwritten source code, diagrams and general information. A lot of this is on Twitter as people seem really interested. I wish I still had the documents for my other projects, but I guess they were recycled years ago.

Did you come up with any special techniques when working on the BBC Micro?
Each game has its own set of technical challenges which must be overcome. *Galaforce* was all about performance. The software sprite routines had to be fast, so code optimisation was really important for this game. Also, memory was tight so I had to pack the level and pattern data as small as possible.

***Galaforce* drew heavily on arcade games, what were your favourites?**
I played many of the early arcade games, some more than others. *Defender* was truly amazing and has to be one of my all-time favourites. I also enjoyed *Galaxians*, *Galaga*, *Star Force*, *Fantasia*, and *Moon Cresta*. Basically, I'm a big fan of shoot-'em-ups. Simple, mindless blasting!



» [BBC Micro] Kevin found and released the previously unseen *Amnesia*, a scrolling platform game.

What made you develop a motorbike game?
Superior Software's *Overdrive* was a massive seller on Beeb and Electron, a very basic car racing game that had no corners. You simply had to dodge the cars as they came down the screen. Superior were desperate for a new racing game that featured realistic corners, but it had to work on the Electron, too. I took up their challenge and worked on the road technology first as this was the most important aspect of the game. I managed to get this going quite quickly using a clever edge update technique and tried it on the Electron to see if the performance was good enough – the Elk runs much slower than the Beeb. The speed was great so proper production began. There were so many car racing games around it was decided that a motorbike would be more original. You could also bash into the side of other riders and knock them out of the way – well before *Road Rash* did it. It was a technical challenge and a nice break from shoot-'em-ups. The game was well received, especially by Electron owners.

Did you have any unreleased BBC games?
I started many games that were abandoned very early in development, from isometric adventures to 3D wireframe arcade simulations. In most cases I created the basic technology required and then struggled to make it into a fully-fledged game. However, two titles did become well-developed demos. *Storky* (1985) was a sideways-scrolling game influenced by arcade title



» [BBC Micro] *Galaforce* was born from Kevin's love of shoot-'em-ups like *Moon Cresta*, and, obviously, *Galaga*.

> "Each game has its own set of technical challenges which must be overcome"
> Kevin Edwards



FIVE TO PLAY

Five delights from Kevin you should play



GALAFORCE 2
(BBC MICRO)

■ There were several improvements for this sequel, including bosses, bonus items and an alternating two-player mode. Kevin has released the source code on GitHub, with a YouTube teaser video of *Galaforce 3* for the BBC, released this year (to mark *Galaforce 2*'s 30th anniversary).



SPIDER-MAN & VENOM: MAXIMUM CARNAGE (SNES)

■ This beat-'em-up alternates play between the characters (with cameos from other Marvel heroes). Cutscenes are based on comic book panels, additional flourishes to the comic book feel are the 'visual sounds' as an enemy is hit. POW!



KEN GRIFFEY JR PRESENTS MAJOR LEAGUE BASEBALL
(SNES)

■ The Nintendo-owned Seattle Mariners team in-game has Ken and Nintendo employees as players, with other teams similarly themed (Boston has *Cheers* characters). The big-hitting Home Run Derby mode is a great addition.



LEGO ROCK BAND
(PS3)

■ Building your band and rocking around the world, this is the perfect combination of Harmonix rhythm action and TT Games' sense of humour. Easy settings let all the family play, and famous bands (Queen, Blur) are included in Lego form to play through the eclectic 45-song soundtrack.



INCOMING FORCES
(PC)

■ After saving Earth from alien invasion in *Incoming*, the sequel sees you as the alien defending their homeworld from the invading Humans. Fast-paced 3D shooting with a variety of vehicles ensues, and GOG.com has a great-value bundle of both games designed to work on more modern PCs.

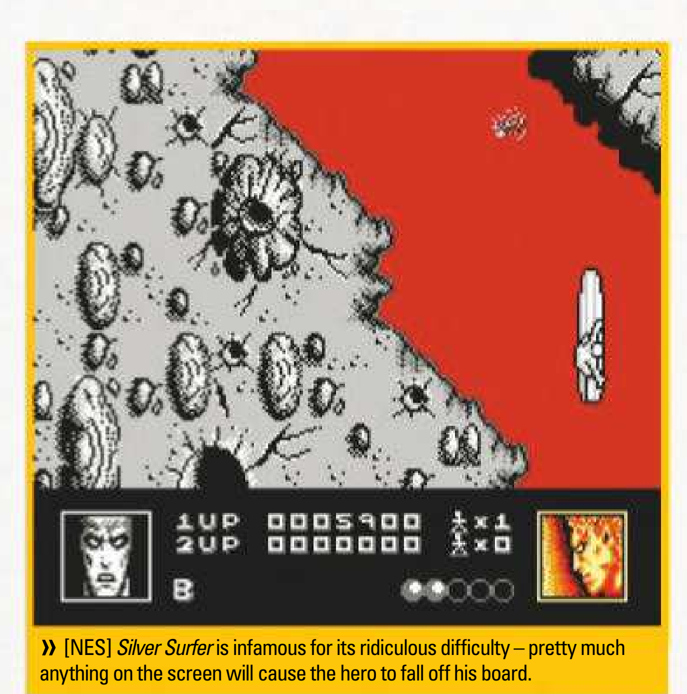
Fast Freddie. The player controlled a basketball-kicking stork that had to avoid the scrolling scenery and air-based baddies and missiles that were trying to knock him out of the sky. Sadly, I haven't located any of the disks and I can only guess that the game is lost forever.

Amnesia was located and made available on popular BBC Micro website stairwaytohell.com. The game was abandoned for various reasons, the main one being the BBC market was in serious decline by 1988 and it didn't make commercial sense to continue.

Another string to your bow was tape protection software. How did this come about?

One of my school friends was Paul Proctor, who converted many Ultimate Play The Game titles to the BBC Micro – including *Sabre Wulf*, *Knight Lore*, *Alien 8*, *NightShade*, *Lunar Jetman* and *Cookie*. Because piracy was a big issue, he wanted to protect his games from being copied from tape to disk. At the time BBC owners distributed copied software on disk as it was so quick and easy to do. The idea was to make the tape to disk transfer process difficult for the average user, thus slowing down the rate at which games would be copied. I'd deprotected many games and knew the techniques other people were using, and devised a more secure way of protecting code. This basically involved obfuscating 6502 code that loaded and decrypted the main game code and data. The obfuscated code was hidden behind some robust decryption code that used some of the system's 6522 VIA timers to decipher itself. If someone tried to hack the code by changing it in any way it would break the decryption process and fail to reveal the obfuscated code correctly. It proved so successful that many of the top publishers asked me to protect their titles, including Ocean, Imagine, Superior Software and US Gold. I reworked this system and enhanced it over the years.

I also protected *Exile* for Superior Software and was fortunate enough to see the game a few weeks before everyone else. *Exile* is a remarkable game that has to be one of the best Beeb games ever created.



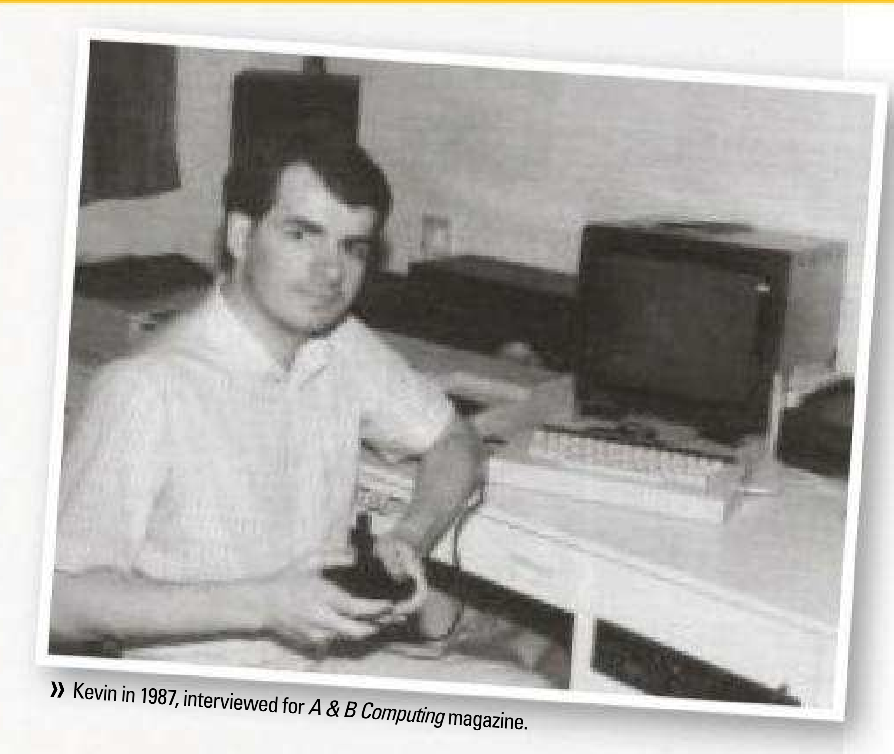
» [NES] *Silver Surfer* is infamous for its ridiculous difficulty – pretty much anything on the screen will cause the hero to fall off his board.

You were known for your tight protection code for your games. Which game's code took the pirates the longest to defeat?

NightShade, I have only heard of a handful of people that claim to have cracked it – mostly using hardware devices. It was particularly nasty and had multiple decoder stages and lots of pitfalls. A few years ago I helped the emulation community out as they were still unable to emulate the code. A massive technical [forum] thread was started on startdot.org.uk about *NightShade*'s protection and the outcome was that they could finally run the protection code successfully under emulation. The cycle timings for the 6522 VIA had to be perfect for it to run correctly and they managed to nail it.

Did you ever go to the duplication plants to help master the games?

No, I never got the chance. The last thing I did was create the 'Master Maker' Disk. This disk saved out a cassette image of the protected game. The duplication staff would boot the disk and record a single master tape from it. After testing, this was then 'bulk-copied' by their duplication machines and boxed up. I think Ablex did the mastering for most of the Ocean, Imagine and US Gold titles.



» Kevin in 1987, interviewed for *A & B Computing* magazine.

Did you get extra payments from the *Play It Again Sam* compilations?

Yes, I got a proportion of the full royalty. So if I had one game out of four, I got 25 per cent of the royalties.

How did you make the jump from home computer to NES and SNES?

In late 1987 I realized that the Beeb market was starting to collapse – home computer and software sales in general were slowing down quite rapidly. I considered developing games for the Amiga, ST and Archimedes but I didn't see much of a future for those machines either. Around that same time Paul Proctor was working for Tim and Chris Stamper (at Rare) on a new console called the Nintendo Famicom. This was of course the NES when finally launched in the US and Europe. [I thought], 'If the Stampers were investing time and effort on consoles, then maybe I should do something similar.' I knew someone who owned a local development studio, Software Creations, and heard they were building a team to work on the NES. I went down to meet everyone and find out more and



> Most of the time, as long as you aren't being really stupid, there are no problems
> Kevin Edwards



SECURITY BLANKET

Kevin utilised rock-solid protection for his games



» The Ultimate BBC games, converted by Paul Proctor and with tape protection by Kevin.

Matt Godbolt created Javascript emulator jsbeeb, and getting games protected by Kevin to run on it was a challenge. Matt says, "Timings are incredibly important for accurate emulation. Games programmers would take advantage of timing subtleties and undocumented side-effects of instructions. Anti-copy mechanisms were often the most sensitive to this. The 6502 CPU in the BBC Micro had a number of bugs too – [some] game protection systems would use this to their advantage to try and prevent reverse-engineering of their code bases. Kevin Edwards' protection was the undisputed king – using interrupt timings, various hardware timers and even the self-modifying decryption code itself to generate the keys to decrypt the game."

James Bonfield, renowned BBC hacker, talks about Kevin's protection on *Exile*. "Kevin was the king of copyright protection and the only game author that truly defeated all my attempts. He had the bright idea of encrypting using the 1MHz hardware timer values, the code doing the encryption, and the program counter. This means that the code cannot be modified, it cannot be moved (it is position-dependent) and it cannot be easily simulated due to the real-time nature of the hardware clocks. Truly a genius."



» [SNES] Kevin cites Spider-Man as one of the best Marvel heroes you could utilise in videogames.

got offered a job there and then. When the SNES was released we started development for that, too.

Did you love working with the SNES?
Yes, it's my all-time favourite console platform. Great hardware with plenty of display modes and hardware sprites. Powered by a 16-bit 6502 processor, too – the last platform where the whole game was written in assembly language.

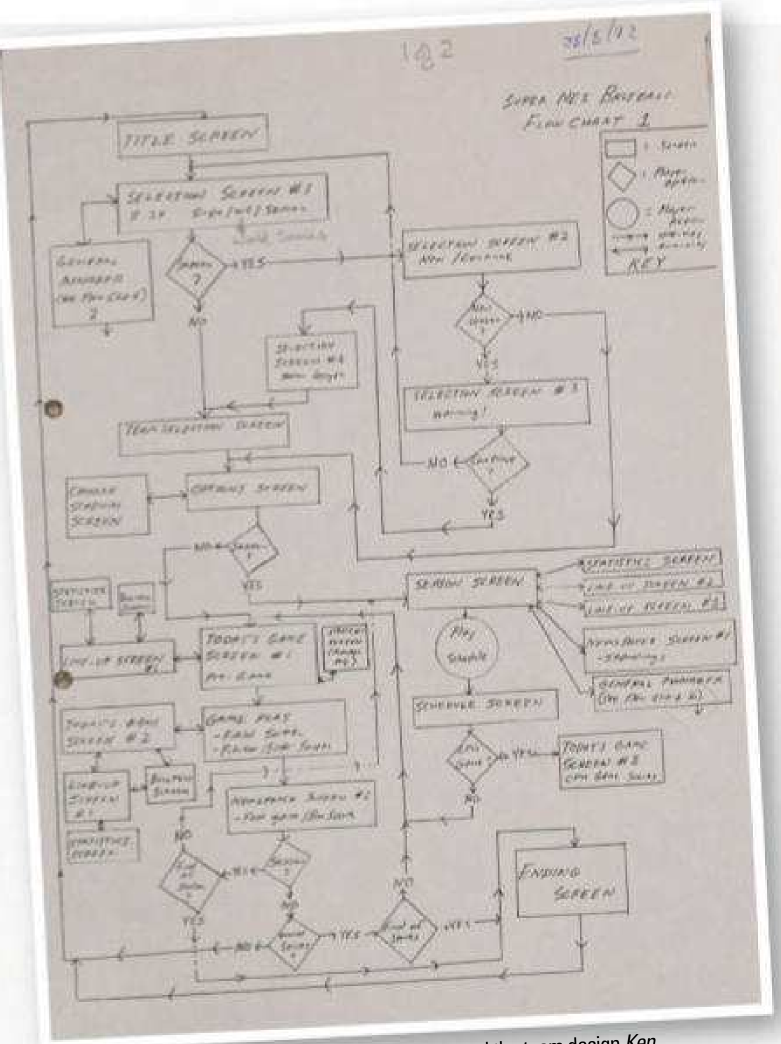
You have basketball and baseball games in your back catalogue – were you a fan?
I wouldn't say I'm a big fan of either, really. I did get the chance to go to see the Lakers play in Los Angeles, which was an awesome experience. Baseball is way too slow for me.

Are you proud of the Ken Griffey Jr baseball game, developed in the UK?
Yes, very proud. I worked with an amazing team of people on that project, including Ste Pickford who was in charge of all the art. The game was produced and designed by an American, Brian Ullrich, who was a massive baseball fan. He worked at Software Creations with us and made sure we created the best possible baseball game for Nintendo. Hard work, but happy days!

» [SNES] Despite working on baseball games, Kevin wasn't a fan.

With the hype surrounding this year's *Spider-Man* game on PS4 in mind, what was it like working with the character (and other Marvel superheroes) in the Ninteies?
Working with other people's intellectual property can be the best and worst experience. You are often bound by guidelines that tell you what you can and can't do. Most of the time, as long as you aren't being really stupid, there are no problems. Spider-Man and Wolverine are two of the best Marvel characters that you could choose for a videogame. They have awesome abilities and this allowed us to make great games. The hardware in the Nineties was 2D sprite-based so we were quite limited with what could be done. Rendering Spider-Man's swinging web using sprites was a fun challenge.

The *Incoming* games were 3D shooters for the PC, a big change of direction for you. What was your role on these titles?
My role was to get the game running on lots of different 3D graphics cards and work around problematic drivers/hardware. I was also tasked with optimising CPU and GPU code paths. This included making use of multimedia processor extensions where possible. *Incoming* was in development just as affordable 3D graphics cards were appearing for PC. Hardware vendors were competing against each other to sell their cards. However, they desperately needed 3D games that showed off their products. Rage Software came along and supplied a copy of the game that was bundled with the graphics card. Rage received a fee and the graphics card companies got



» Brian Ullrich's flowcharts helped Kevin and the team design *Ken Griffey Jr Major League Baseball*.

something to give their customers on day one. Everyone was a winner!

You returned to working on Marvel properties with *X2: Wolverine's Revenge* on Xbox – what did you make of the hardware?
The first Xbox was a really nice console to develop for. However, the GPU was quite limited and only allowed you to create very simplistic vertex and pixel shaders. Those chunky Duke controllers were terrible, too, thank goodness for the [smaller] ones. It was a lot easier to program than the PS2, which often required you to roll your sleeves up and do very low-level hardware programming. I'm not saying PS2 was bad, it was a very capable platform, but Xbox was a relatively simple step for anyone that had written PC games. C and C++ arrived with PS2 and Xbox which made game development so much easier.

Your most recent job is at Traveller's Tales. Is it fun working on the *Lego* games?
Lego mixed with massive IP is an awesome combination. How often do you get the chance to work with great franchises such as *Star Wars*, *Indiana Jones*, *The Incredibles*, *Pirates Of The Caribbean*, *Lord Of The Rings*, *Batman*, Marvel superheroes and *Harry Potter*? The *Lego* games are so much fun to create and it's great to work on games that people recognise and have bought themselves.

Do you prefer dedicated handhelds or smartphones for mobile gaming?
Dedicated handhelds, because they have decent built-in sticks and buttons. Touch controls for games are difficult to do well and are never as good as having proper controllers. I really liked the Vita, but it got crushed by faster and better mobile phones and tablets.

What was your favourite studio/company to work at?
It's the people you work with that makes the job fun and creates the culture within the studio. I've been lucky enough to work with so many great, talented, amusing people at several studios. It's those people you remember and talk about.

Do you have any unusual stories you can share?
Countless hilarious stories that cannot be told for legal reasons and to avoid embarrassing the parties involved. I do remember the time someone was sent flying across the room because they connected a console, powered by a non-isolated 110-volt transformer, to an earthed TV monitor. Fortunately, they weren't injured and eventually saw the funny side of things once they'd picked themselves up off the floor. Remember it, Tony?

Recently you have been preserving old BBC disks. Has it been a challenge going back to machine code?
I still have all of my BBC Micro disks from the mid-Eighties and recently started to transfer them to the PC – these disks are 30-plus years old now and in a poor state. The problem is that magnetic media fails over time. If they have been stored in poor environmental conditions they begin to deteriorate and even develop mould which makes then difficult or impossible to read. Fortunately, I have been able to recover the source code and data for most of my early games as well as other documents and software I worked on. I was also the custodian of Paul Proctor's source code backups for his Ultimate conversions. Paul's disks were in a bad way, but I managed to recover the source code for *Knight Lore*, *Alien 8*, *Cookie*, *Lunar Jetman* and *NightShade*. A bit more work was necessary to get them assembling under emulation. I have made videos of these games assembling for YouTube and Twitter (@KevEdwardsRetro). I still remember how to program 6502 machine code!

Would you ever release new BBC games?
Yes, if I ever get the time! I have already converted the source for *Galaforce 2* so it can be assembled on a PC using modern-day development tools and deployed directly to an emulator. My long-term plan is to release BBC and Electron versions of *Galaforce 3*. It's a straightforward shoot-'em-up, but I need to rework all the levels and alien pattern data, which is the most time-consuming part of the entire project. The coding is the easy bit and probably won't need much more work!

What games do you play to relax?
I love playing *Mario Kart* with my children. Yes, they beat me every time. I've never been a good gamer!

Do you see a future for retro gaming?
I can't see it ever going away. The catalogue of retro games gets bigger by the day. Everyone enjoys playing the games from their childhood. ★



» [SNES] Vigilante antihero Venom is about to deliver a coup de grâce in *Venom/Spider-Man: Separation Anxiety*.

YOU ASK THE QUESTIONS

Kevin answers the questions you're dying to ask

RORY MILNE: Why did the powerful Silver Surfer keep dying in his NES game?

The game design was provided to us and we never dealt with Marvel directly… unfortunately, lots of people struggled and it became known as one of the hardest NES games. Angry Video Game Nerd's video [review of *Silver Surfer*] has been viewed over 5.5 million times on YouTube!

NORTHWAY: Wasn't *Galaforce* a rather close 'tribute' to *Galaga*?

Galaforce was certainly influenced by *Galaga*, *Star Force* and several others. It wasn't a port of any particular game, and had a lot more variety in terms of aliens, flight patterns and logic. I wanted to create something that was fresh, fast and fun.

DRS: Do you think the BBC Micro would have been more successful if it wasn't so focused in education?

The BBC created a specification list for their Computer Literacy Project, with the intention of getting the machine in as many schools, colleges and universities as possible. Acorn created the [successful] prototype but it wasn't cheap to build. The BBC Micro was very successful with over 1.5 million sold. Had the price been lower I'm sure more people would've bought it. As it was twice the price of the competitors it was out of the reach of many.

NORTHWAY: Did you skip the 16-bit computers purposefully?

I'd already focused my attention on the NES, which I believed was more likely to survive the home computer crash on the horizon. I did buy lots of books and learnt 68000 machine code in my spare time. I also invested in an Amiga, but it just didn't happen. It was purely a financial decision – I had to buy food and beer somehow!



Final Fantasy Tactics Advance

MORE DISTRACTING THAN STRONG PAINKILLERS

» GAME BOY ADVANCE » 2003 » SQUARE PRODUCT DEVELOPMENT DIVISION 4

Before I used to run Retro Gamer I worked on *games™*. I started off as the News Editor, but it soon became obvious that the magazine's Retro section was a far better fit for me. One day, I was heading back from a magazine 'post mortem' (a meeting to discuss a recently released issue with the rest of the team) when I suffered a back spasm. White-hot pain spread from my lower back like wildfire, and the agony was so intense I fell to my knees and ended up gripping a table, tears rolling down my cheeks and too scared to move in case I caused further injury. Sent home to rest, the pain was so intense I couldn't even lie in my bed; instead, I slept and rested on my lounge's wooden floor. It was impossible to even lift my head forwards without triggering flaring pain in my back, so even watching TV was out of the question. Thank god, then, for my import copy of *Final Fantasy Tactics Advance*.

The strategy RPG for the GBA had turned up a few days previously and I hadn't gotten around to playing it. Being stuck at home, though, I had all the time in the world, and it was possible to enjoy it by simply holding my GBA SP above me so I could look straight up at the screen. There I was, brace around my neck, avidly staring at the GBA's tiny screen as the adventures of Marche and the rest of his team played out in front of me. I'd never played the original *Final Fantasy Tactics* on PlayStation, but I knew of its heritage and it wouldn't have mattered anyway, as *Tactics*' story was completely standalone.

It was completely compelling, too. Maybe it was the strong painkillers or a need to focus away from the dull throb in the base of my spine, but I found Marche's adventure utterly enthralling and I didn't rest until I'd completed it. Mechanically the game remains superb, with a deep job system that is engrossing today as when I first encountered it on my wooden floor. It would be silly to say that Square's game changed my life, but it certainly made it a lot more bearable for 227 hours.


2h
MENU
Move
Action
Wait
Status
2



>> This month we take a look at both versions of the Neo-Geo Mini, play every game on SNK's new compilation and find out if the new Castlevania remasters are worth playing

Neo-Geo Mini

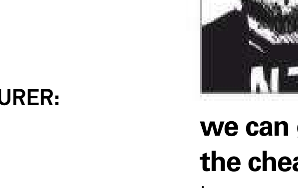
THE PRICE IS WRONG

INFORMATION

» **RELEASED:** OUT NOW

» **PRICE:** £129.99

» **MANUFACTURER:** SNK



The Neo-Geo Mini instantly caught our attention upon its announcement, because we're interested any time we can get Neo-Geo games on the cheap. The long-lived platform is home to many great games, and even if you go for cheaper MVS arcade games over the AES home releases, original Neo-Geo cartridges are expensive – we have games that cost more than this device on their own. Add to that the cute design modelled after SNK's SC25-4, one of the more attractive Japanese Neo-Geo arcade cabinets, and we had high hopes for the machine.

As you'd hope given the arcade-style design, the unit includes a 3.5-inch LCD screen and functional controls. The unit itself is solidly constructed but surprisingly light, and there are stickers included to decorate the machine. The control panel sticker in the Japanese model is nice and durable, and pleasingly textured, too. The display is fantastic – clear, bright and perfectly matched to the resolution of Neo-Geo games. The controls aren't quite ideal, though. While the buttons are responsive, the joystick is not a microswitched digital stick and the gate is circular, so it travels smoothly like an analogue stick rather than giving you tactile feedback when you hit a direction. While we were able to adjust and enjoy gameplay without too much fuss, some players will instantly dislike this and find it hard to pull off their fighting moves, often hitting unintentional diagonals.

Unfortunately, the Neo-Geo Mini is not a standalone portable console, due to the lack of an internal battery – if you want to play it on the go, you'll need to use







» [Neo-Geo Mini] The game menu is clean and well designed, with attractive art for each game.







PICKS OF THE MONTH



DARRAN
Castlevania Requiem: Symphony Of The Night & Rondo Of Blood
Not the greatest love letter to two classic games, but still great fun.



DREW
Tetris Effect
We didn't get time to fully review it for this issue, but my first impressions of this synesthesia puzzler are positive as heck.



» [Neo-Geo Mini] It's hard to deny the value here – original carts like this cost more than the Mini.

» [Neo-Geo Mini] The international edition does have more genre variety than its Japanese counterpart.

a USB power bank. You can also hook the machine up to a TV, using a mini HDMI to HDMI cable (not included with the Neo-Geo Mini). You have the option for 4:3 or 16:9 output, and there's an option to correct for overscan. However, the image quality on a TV is very poor, with soft pixel edges that only get worse if you turn on the additional filter. We actually had better results with original hardware via a direct SCART connection, with no external upscaler. There are also no options for scanlines or borders, for those of you that enjoy those.

Playing on a TV with the built-in controls isn't ideal, so the Neo-Geo Mini supports up to two optional controllers designed after the Neo-Geo CD joypads, which retail separately for £24.99 each. These are well constructed, but flawed. Like the stick on the unit itself and unlike the original Neo-Geo CD pads, the thumbstick has an analogue feel. What's more, the button layout has actually been altered from the original Neo-Geo CD layout, which is sure to irritate purists.

Fortunately the emulation itself is good, as we didn't notice any major issues when comparing the games to a real system. You can save up to four states per game, or use the built-in virtual memory card to save games the old-fashioned way. The system behaves as a Neo-Geo AES would, so you get the console features, such as difficulty selection and training modes where applicable. It's worth noting that if you get the Japanese machine, the games will stay in Japanese even if you set the system menu to English.



» [Neo-Geo Mini] *Super Sidekicks* is fun, but its sequels are better and they're not on the Mini.

Then we need to talk about the games themselves. They're mostly of a high quality, though some choices are baffling – we've got no idea why the original *Super Sidekicks* or *Art Of Fighting* are included when their superior sequels were available, and the same goes for *Top Player's Golf* over *Neo Turf Masters*. There's also no third-party licensing here, so the selection of games is restricted to SNK's IP. This isn't the problem that it would be on other systems since SNK owns most of the Neo-Geo library, but it would have been nice to see the likes of *Puzzle Bobble* and *Windjammers*.

Variety is a problem, though that's mostly inherent to the Neo-Geo library. Although there are 40 games included, 15 of them are one-on-one fighting games (and that goes up to a whopping 23 in the Japanese version). The international version does come off better thanks to a greater mix of genres, but it does also go a bit overboard by including all six Neo-Geo entries in the *Metal Slug* series. It's also a shame that we miss out on *Top Hunter* and *Twinkle Star Sprites*, both of which are excellent. Unlike the previous Neo-Geo X system, there's no way to expand the library, so you're stuck with what's on the device.

It's a struggle to know who to recommend the Neo-Geo Mini to. It's not truly portable, and it's underwhelming on a TV. It will struggle to please the arcade perfectionist Neo-Geo fanatics because it has a few faults too many, and the price is very high for the more casual retro gamer. We've really enjoyed it as a desktop distraction, but with just a little extra care it could have been much more than that. ✱

In a nutshell

It's a cute device with some great games, but the poor TV output, subpar control options and some odd game choices mean that it's not the must-have device it could have been – especially given the price.

✱ WHAT'S IN THE BOX!?

ALL VERSIONS

Art Of Fighting
Blazing Star
Fatal Fury Special
Garou: Mark Of The Wolves
King Of Fighters 2000
King Of Fighters 2002
King Of Fighters 95
King Of Fighters 97
King Of Fighters 98
King Of The Monsters 2
Kizuna Encounter
Metal Slug
Metal Slug 2
Metal Slug 3
Ninja Masters
Puzzled
Real Bout Fatal Fury
Samurai Shodown II
Samurai Shodown IV
Samurai Shodown V Special
Sengoku 3
Shock Troopers 2nd Squad
Super Sidekicks
The Last Blade 2
Top Players Golf
World Heroes Perfect

INTERNATIONAL VERSION ONLY

3 Count Bout
Blue's Journey
Crossed Swords
Football Frenzy
Ghost Pilots
King Of The Monsters
Last Resort
Magician Lord
Metal Slug 4
Metal Slug 5
Metal Slug X
Mutation Nation
Robo Army
Shock Troopers

JAPANESE VERSION ONLY

Agressors Of Dark Kombat
Alpha Mission II
Burning Fight
Cyber-Lip
King Of Fighters 2001
King Of Fighters 2003
King Of Fighters 94
King Of Fighters 96
King Of Fighters 99
Ninja Commando
Real Bout Fatal Fury 2
The Last Blade
Top Hunter: Roddy & Cathy
Twinkle Star Sprites

★ PICK OF THE MONTH

SNK 40th Anniversary Collection

retro GAMER SIZZLER

» System: Switch **» Buy it from:** Online, retail **» Buy it for:** £39.99

Digital Eclipse has been doing good work with retro compilations recently, and *SNK 40th Anniversary Collection* is arguably its best release yet. The collection features a selection of 13 hits from 1978-1990, including the likes of *Prehistoric Isle In 1930*, *Psycho Soldier* and *Crystalis*. In many cases, both the arcade game and NES conversion are included, which is nice to see as many of the home versions have new features and changes that are worth exploring. The games have been chosen well as most of them remain enjoyable, although they're predictably rock hard in difficulty.

The games are presented with a variety of screen options, including nice TV and monitor filters, with optional border artwork for modes where the game doesn't fill the screen. There's an option to use portrait orientation, which is great for games like *Vanguard*, *Ikari Warriors* and *TNK III*. Regional variations can be selected where available, and options are available for each game, too. Controls are fully configurable and the rotary joystick games have been adapted to twin-stick controls – not quite authentic, but the best available solution (we definitely prefer it to rotation using L and R). There's also a watch mode for each game showing a complete run, and you can have a saved state in each game too.

There's also a great Museum mode featuring lots of original research, so even hardcore SNK fans will probably learn something new from it. SNK's whole early history is comprehensively covered, with screenshots and some text for every game (including those not on the compilation). Plenty of bonus material is included, too – including scans of guidebooks and newsletters, information on cancelled games and more. Soundtracks are also included for the games on the collection.

Although the selection of games is slightly slim and a little heavy on shooting games, a free update is scheduled to add 11 more arcade games including *Fantasy*, *Beast Busters* and *Paddle Mania*. As a result, we've got no hesitation in recommending this compilation.



Score 92%

» [Switch] Games come with extra bits of artwork to fill in the rest of the screen.

» [Switch] You can play a classic SNK game, then learn all about it in Museum mode.



Soulcalibur VI

» System: PS4 (tested), Xbox One, PC
» Buy it from: Online, retail **» Buy it for:** £54.99

Namco's weapons-based fighting series is back, and this time it's a soft reboot that retells the story of *Soulcalibur*, meaning that you'll see familiar scenery and characters. In fact, only three of the 21 fighters are new to the series, which is a tad disappointing. Still, the combat is tight and the new Reversal Edge mechanic adds a cool defensive option.

The series' tradition of graphical excellence continues here, as *Soulcalibur VI* is a beautiful game. Likewise, there's plenty to do for the solo player, with a story mode that visits all characters at various points in the timeline, plus an RPG-style mode in which you develop your own character. It's a welcome return overall, but don't expect revolutionary additions.



Score 86%



Luigi's Mansion

» System: 3DS
» Buy it from: Online, retail **» Buy it for:** £34.99

Considering Nintendo planned to use 3D for its GameCube, it should come as no surprise to learn that console's launch game looks very good on the 3DS. It's as good as you remember it, too – exploring a creepy mansion in search of Mario and using a souped-up hoover to suck up the many ghosts you encounter still feels great. The bosses remain inventive and fun, and they make good use of the system's 3D capabilities. Ghostbusting isn't quite as easy as it was on the GameCube, due to the 3DS's weak analogue nub, but the motion controls do work with some practice. Grezzo's improvements are many, but they're subtle additions rather than extravagant changes. Nevertheless, Nintendo's 17-year-old game still feels surprisingly fresh.



Score 81%



Castlevania Requiem: Symphony Of The Night & Rondo Of Blood

» System: PS4
» Buy it from: PSN **» Buy it for:** £15.99

As much as we love the two games featured on this compilation, *Requiem* feels like a missed opportunity. After being spoiled by the *Mega Man* compilations, Konami's decision to release just two games feels stingy. Granted, they are amazing games – but it's still a shame. In terms of differences to the originals there are numerous filters, force feedback and a new localisation. What we effectively have here is an update of the PSP game that appeared in 2007, but without the remake of *Rondo Of Blood* that came with it. It represents great value, but *Requiem* could have been so much better.

\>>

Score 80%

» [TIC80] *Ticaruga* is familiar, yet noticeably different to the game it's based on.

» [PC] Taking aim at the virtual bad guys with *Metro Cop*.



» [PC] *Bio Evil 4* plays like *Metal Slug* had a baby with *Resident Evil 4*.

DEMAKES GALORE

Demakes take existing games and pare the design down to something which would potentially work on an 8-bit or 16-bit system, so the Demake Jam is, possibly unsurprisingly, a competition where developers take their favourite games and consider how they can be made to work after a significant drop in processing power.

It does have to be noted that there are some dreadful puns among the titles, for example *Low Knight* and *Delunky* are reworkings of indie darlings *Hollow Knight* and *Spelunky* respectively while *Thieves At Sea* is a top down RPG-style rendition of *Sea Of Thieves* which simulates how Rare's game could look if running on the Game Boy Color. And we had to smile at the exploration-based *Low Mem Sky* which looks to be less divisive than its muse was… at least when it was originally released.

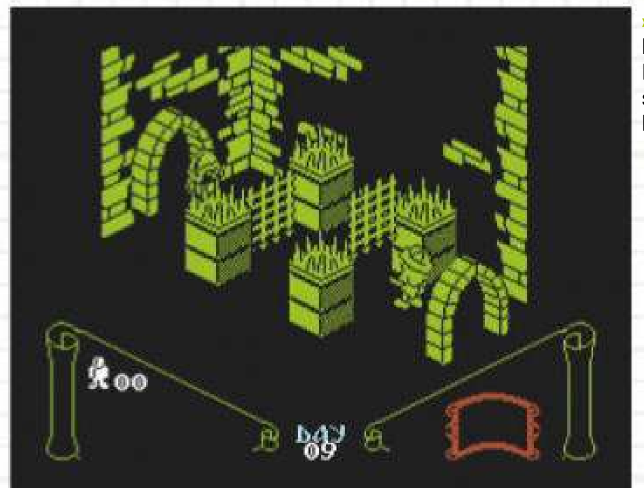
Mario's most recent *Odyssey* adventure received some attention with two platform-based reworkings offering different takes on the source material, while *Super Plumber Boi*'s instead went back to the first *Super Mario* outing for inspiration, converting the graphics to black and white to make them even more retro. The famous plumber's brother also got to do some ghost busting in *Muigi's Lansion* and another Nintendo franchise *Splatoon* was remixed multiple times, with *Spraytoon* sporting some very impressive pixel art. Fox McCloud took to the skies once more, although his trusty Arwing was dismantled for a couple of visually simplified shooters.

Also for fans of blasting aliens is *Ticaruga*, a stripped back 2D rendition of level one from *Ikaruga* for the TIC80 fantasy console. It's not ideal, and lacks a few important mechanics, but at it least demonstrates that a more involved reworking is potentially possible. There's a lot of love for the fantasy consoles among the 70 entries and even instructions for an intriguing live action version of *Pokémon Snap*, all of which can be found at the competition's page via Kikstart.me.uk/demake-jam-2018.

On a related note, Jon Burton of Traveller's Tales recently posted a video to his YouTube channel Game Hut about possible ways to implement a game similar to *PlayerUnknown's Battlegrounds* on retro hardware like the Sega Mega Drive. A 16-bit version of *PUBG* will probably never happen, but this video shows some of the thought processes behind creating such a demake. Jump through Kikstart.me.uk/pubg-md-theory for his video and there's plenty of other interesting behind-the-scenes discussion of games from Jon's impressive back catalogue on the channel.

NEW GAMES NEEDED

If you have a homebrew project you would like to see featured then please contact us at: **retrogamer@futurenet.com**



» [C64] By day, a brave adventurer. By night, the same thing… but hairier.

A KNIGHT TO REMEMBER

There's been a few false starts over the years, but the C64 finally has a conversion of Ultimate's classic isometric adventure *Knight Lore*. Guide Sabreman around a dark, foreboding castle in search of the six magical objects that, when placed into the wizard Melkhior's cauldron will free him of the enchantment which sees his body transformed into a werewolf each night.

Time really is of the essence, since Sabreman only has a mere 40 days and nights to complete this magical purification spell before the curse's effects become permanent. Kikstart.me.uk/knight-lore-c64 will lead you to the castle.

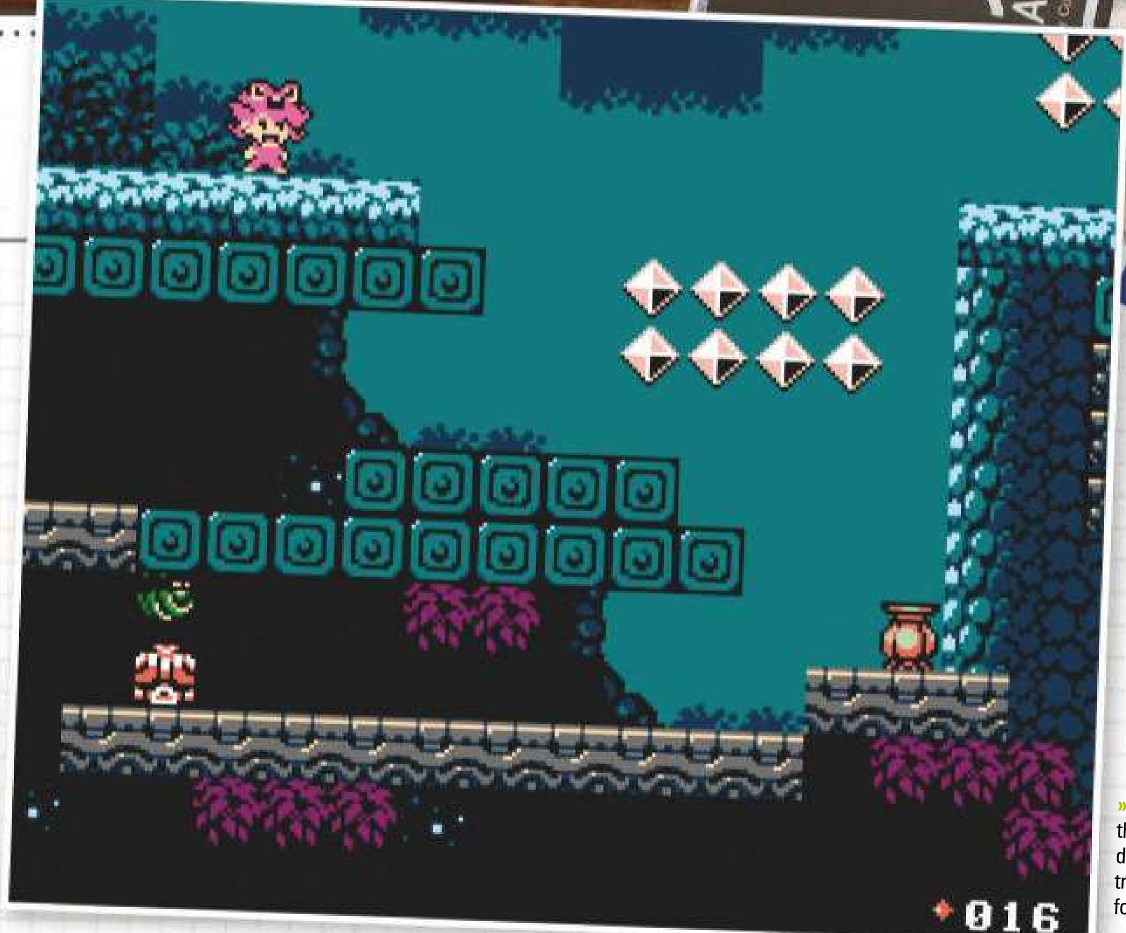
PORTING AN ADVENTURE

***Ramsbottom Smith And The Quest For The Yellow Spheroid* is the first game in 30 years from venerable adventure game developer John Wilson of Zenobi Software.** It's a text adventure originally developed for the Spectrum, but, with help from Gareth Pitchford, the magic of Gilsoft's PAWS adventure creation tool and the CP/M operating system, it's been converted to run on a range of machines including the Amstrad CPC and SAM Coupé.

Kikstart.me.uk/ramsbottom-smith is a good starting point for those all-important download links, as well as a little more information about the game itself.

» [Amstrad CPC] Exploring the contents of an ottoman rather than getting dressed.

Smith can see -
A copy of the Tribune (folded)
Smith was alone.
>examine ottoman
This had been a gift from a great-uncle and had served Smith well over the years when it came to storing items of importance.
Smith was alone.
>open ottoman
Smith lifted the lid of the ottoman to reveal ...
... a blanket.
Smith removed it from the ottoman.
Smith picked up the woollen blanket.
Smith closed it again ...



» [NES] Seeing the enemies despite the trees in a forest area.

HOMEBREW HEROES

We recently had a natter with Chris Cacciatore about Nebs 'N Debs to find out where the inspiration for his colourful NES platformer came from and his answers were something of a surprise



Where did the idea for *Nebs 'N Debs* originally come from?
A piece that I pixelled for my daughter's first birthday in 2015. I did the alphabet and with each letter a kid with an animal on their head. The characters Nebs and Debs came from the letter 'S' and the corresponding squid kid. Over time, the squid morphed into an octopus. I think that was because I could make an octopus look a bit better in a compacted space – 24 by 24 pixels.

Who was involved and roughly how long did it take to create?
Anders Gullmarsvik, artist; Kaela Camille Agustin, artist; Heather Klinger, packaging design and layout; Chris Cacciatore, programmer and project lead; Richard 'kulor' Armijo, sound and music.
It took 2.5 years to make.



» [NES] There's a nasty surprise incoming for these enemies.

How has the feedback been from NES gamers so far?
Great! Starting with winning second place at the 2016 NESDEV competition and up to and after our successful Kickstarter campaign the support we have received has been positive. I post animated GIFs regularly on Twitter showcasing gameplay and graphical glitches – my personal favourite – and these helped get the word out. There is also a lot excitement in the NESDEV community right now. There are awesome games in development, being released, or Kickstarted at this very moment! *Nebs 'N Debs* is certainly riding that wave.

And is there anything you would have done differently with hindsight?
I knew that focusing on the asset pipeline would be important, but I should have spent even more time on it. The NES is an old system and is ignorant of modern game assets – for example PNG tile sets and palettes, music and sound effects in the form of Tracker files, and JSON level data from a level editor. So transforming and stuffing these assets into a NES game…well, it requires work!

Early in development I watched Miau and Nicolas from Morphcat Games stream development of their NES game *Bana Nana*. Seeing how they tied together their build process with Python scripts inspired me to try similar approaches, but with the Ruby scripting language. The easier it is to add stuff to your game, the easier it is to experiment and make it better.

Finally, do you have any future projects that our readers might be interested in?
Yes, our next project is codenamed *Janus*. It is an action adventure game for the NES about a protagonist who wields a slingshot. This title will definitely use more sophisticated cartridge hardware than *Nebs 'N Debs* which had to fit within 40 kilobytes. We are contemplating using expansion audio as well. Release timeline is one-to-two years. There will be more to say about it once *Nebs 'N Debs* is released!

Gaming REVIEWS

DO YOU REMEMBER?

The Temple Of Really Confusing Underground Mazes is brimming with treasures and heroic Atari explorer Illinois Smith is set on gathering as much as possible before retiring on the proceeds in his titular game. There aren't any lethal mechanical traps or eternally cursed creatures to worry about, either, so the only serious problem is the smell, or more specifically the poisonous gas.

Our Fedora-wearing hero is built of sturdy stuff, but even he can't last more than three minutes in that environment, so finding the exit is a matter of urgency with gathering goodies being a secondary concern. It's easy to become lost deep within the mazes, even when knowing roughly where the exit is and the temptation of a few more shiny baubles is there to lure unwary adventurers to their death. Head to Kikstart.me.uk/illinois-a8 if you dare.



» [Atari 8-bit] Taking time to gather some glittering prizes near the level exit.



» [Atari 8-bit] Somebody really had a thing for chalices, didn't they?





retro GAMER SIZZLER

MISSION: LIFTOFF

» **PLATFORM:** THOMSON TO8/TO8D/TO9+ » **DEVELOPER:** DATASCUD » **DOWNLOAD:** KIKSTART.ME.UK/LIFTOFF-TO8 » **PRICE:** FREE



» [Thomson] Every now and then a skull-like boss appears, spewing forth bullets.



» [Thomson] The locals are keeping an eye out as the ship comes together.

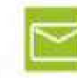
Working for Space And International Mecha-Industrial Ventures isn't a great job: it doesn't have much in the way of safety procedures in place, and it sends operatives out in ships that are only a few harsh missions away from scrap. It, therefore, doesn't come as much of a surprise to one operative when, having suffered problems which resulted in his craft coming down with a bump on an unidentified world, his SIMIV-issued transportation promptly falls apart. Stranded in the middle of nowhere and completely out of contact with dispatch, the only way to escape is to reassemble the rocket, gather some fuel capsules and then limp between the worlds of the solar system.

The rocket will survive a few hops before collapsing and needing further work, but the supplies of fuel are at least sufficient – although the lifeforms on each planet that will be visited during this trek won't exactly be pleased to see an invader crashing through their atmosphere. That's where the pilot's personal jet pack comes in. It allows him to whiz around the landing site to gather parts or fuel as needed – carrying the weight of a significant chunk of spaceship without issue – and as a bonus it comes with a laser cannon for dealing with the unfriendly natives. If there's time, and the pilot is feeling brave, items will appear that can be collected for points or, more rarely, an extra life.

We probably don't have to point out that *Mission: Liftoff* has been heavily inspired by Ultimate's classic 1983 release *Jetpac*, but not slavishly so. The development took over four years, with the aim being to show what the Thomson hardware is capable of and the results are indeed impressive, with some well-designed graphics and sampled sound effects to enjoy. More importantly than that, however, is that it's a good, playable rendition of the original game, starting off easy with the difficulty taking a while to build up until things become enjoyably intense somewhere between the first and second boss battles.

>> Score **92%**

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 RetroGamerUK  @RetroGamer_Mag retrogamer@futurenet.com

KIKSTART

» **PLATFORM:** VIC-20
» **DEVELOPER:** VICTRAGIC » **PRICE:** FREE
» **DOWNLOAD:** KIKSTART.ME.UK/KIKSTART-VIC



» [VIC-20] Majestically leaping to grab a passing balloon.

Although it shares a name with Shaun Southern's two-player motocross racer, *Kikstart* on Commodore's VIC-20 is actually based on the lesser-known, arcade-oriented Commodore 16 release from the same author. The objective is still to ride a dirt bike across the hazard-strewn course, but this time against the clock rather than an opponent.

Along with more regular hazards, like rows of double deckers and pits, some stages have rotating blades and lightning-spewing clouds in the air to worry about as well – although there are also balloons floating past which can be collected using the super-powerful springboards that launch the motocross bike upwards.

The original C16 game is tough but lots of fun to play, something which has survived the cross-country journey to the machine's older brother – the graphics made it, too, but are chunkier in their new home – so a 16K-expanded machine is required.

>> Score **88%**



» [VIC-20] A tempting row of buses is like catnip to a daredevil.

TRAP RUNNER

Retro Gamer Sizzler



» **PLATFORM:** AMIGA » **DEVELOPER:** RETROGURU
» **DOWNLOAD:** KIKSTART.ME.UK/TRAP-RUNNER-AMIGA » **PRICE:** FREE

Jay and his girlfriend May's plans for a quiet Sunday picnic in the forest go very wrong when a creepy-looking creature with glowing eyes and a dramatic cape materialises, kidnaps May and disappears again, challenging Jay to attempt a rescue before shooting off. That's what our hero sets out to do, only pausing to note that this would be a fairly weak excuse for some platform-based action if this were a videogame.

Trap Runner is a cute-looking but tough game, although not frustratingly so and it does ease the player into things over the first couple of levels before the more devious enemy and item placements start appearing. After that, there's lots of pixel-accurate jumping and monster stomping to do as the level designs tempt the player with items – some of which are necessary on stages with quotas to be met – in hard-to-reach, precarious locations.

>> Score **90%**





ROUNDUP

***Picoh Mummy!* is a reworking for the PICO-8 fantasy console of the Amstrad CPC *Amidar*-alike action game of a similar name, *Oh Mummy!*.** The player takes control of an archaeologist on a mission for the British Museum, searching for ancient treasures while being pursued by the undead. Hidden scrolls can deal with one mummy each, and completely circling each stone box reveals its contents for better or worse. Kikstart.me.uk/picoh-mummy-pico8 will take you to the exhibit.

Continuing the remaking theme, *Monty On The Run* is a Windows conversion of the classic platformer starring everyone's favourite absconding mole after his escape from Scudmore Prison. Help Monty gather parts for his escape kit as he travels between safe house, underground lair and, hopefully, the ferry to freedom having collected enough gold coins to be set for life. Jump into a hole at Kikstart.me.uk/motr-win for more information.

NOVA THE SQUIRREL

» **PLATFORM:** NES » **DEVELOPER:** NOVASQUIRREL » **DOWNLOAD:** KIKSTART.ME.UK/NOVA-SQUIRREL-NES » **PRICE:** VARIABLE

The world of Latte is in peril from the evil Scheme Team, but one hero, a squirrel called Nova Storm who has special powers to aid her, will step forward as its protector. She will need those abilities as well because the world's scrolling levels are full to the brim with tricky platforms and fast-moving enemies which want nothing more than to knock poor Nova over. Some nasties can be stunned, others destroyed and a few can't be dealt with at all, so they need to be avoided.

Although Nova might be taking some of her cues from a couple of NES classics, including the *Super Mario Bros* series, there are a couple of fairly major differences in her game. The player doesn't have a lives counter and isn't racing against the clock so, apart from having to reach the next checkpoint without taking too many hits, any section can be attempted over and over again until they are successful.

>> Score **83%**



» [NES] It's like a grumpier version of Lakitu with a beard.

HOW TO

QUICK GUIDES TO HELP YOU GET THE BEST FROM YOUR GAMES

HOW TO...

SPOT PIRATE GAMES (PART 1)

FORMAT

» MEGA DRIVE
» NEO-GEO MVS
» GAME BOY ADVANCE

WHAT YOU'LL NEED

» PHILIPS SCREWDRIVER *(NEO-GEO MVS)*
» GAMEBIT SCREWDRIVER *(MEGA DRIVE)*
» TRI-WING SCREWDRIVER *(GAME BOY ADVANCE)*

DON'T FORGET...

» Be particularly vigilant when buying Game Boy Advance games – pirate games are incredibly common on this particular platform.

» If you're unsure about what you're buying, request a look at the PCBs. Sellers of high value or commonly counterfeited items will often oblige.

NT

Nobody wants to get caught out with a duff game – here are some telltale signs across a variety of popular platforms



NEO-GEO

▲ It's clear to see from the outside that *Puzzle Bobble*'s label is different from the legit *Metal Slug* – the colours are wrong and the label is made from a different material to the others. Puzzle Bobble was commonly bootlegged due to its small size and popularity. www.mvs-scans.com is a great resource for checking labels and boards.



▲ The boards inside are authentic SNK boards, but the high number of EPROM chips here gives away the bootleg nature of the game. Legitimate games do sometimes have them (often after repair), but usually only a couple. What's more, the ROM chips numbered 044 show that this was originally an *Art Of Fighting* cartridge.

MEGA DRIVE

▼ The pirate *Forgotten Worlds* cart here doesn't have any company logos, and its cartridge uses the western shell design but with a notch cut out to fit Japanese machines. Legitimate games don't do this. When you start the game, the Sega logo is corrupted – pirates used to commonly remove official branding in this fashion.



▼ Since Sega allowed third party publishers to manufacture their own Mega Drive games, there's no single correct type of board or chip – but typically they'll feature company logos of some kind, as seen on the legitimate cartridge. The pirate game has no official logos on the chip or the board, and as you can see it's a bit grubby inside.



Something you'd like to see a guide for? Contact us at:
RetroGamerUK @RetroGamer_Mag retrogamer@futurenet.com

WHAT'S NEXT?

Q: I ordered a game and when it turned up, it was a pirate copy. What should I do?
A: Contact the seller and request a refund. They should oblige, particularly if it's a larger shop – and if you've gone through eBay, selling fakes is a violation of the terms and conditions. Don't assume malicious intent, though. Most people wouldn't be able to identify a fake, and we've seen well-known retailers of used games with dodgy carts for sale as a result.

Q: I've recently seen brand-new SNES carts for sale which don't have the Nintendo logo or anything like that. Are these legit?
A: Possibly – there are a number of companies now including Retro-bit, Piko Interactive and iam8bit that are actively engaged in reissuing classic games, with the official blessing of the rights holders. However, there are also unofficial reproductions. Typically, if a company has the official licence to produce something they'll make that clear.

GAME BOY ADVANCE



▸ The label on this cartridge has a number of small flaws. The Nintendo logo uses the wrong font and is incorrectly centred, and the ESRB rating logo is also wrong – the E is smaller than the real thing, and tilted too far. Legitimate Game Boy Advance games usually have a number stamped into the label, but this one doesn't.



◂ Compared to a legitimate cartridge, the pirate PCB is scrappy and dirty. The epoxy blob isn't present on an official cartridge, either. Legitimate cartridges always have an authentic-looking Nintendo logo, and never have through-holes in the pin contact area – they should be in a uniform line under the green solder mask.

YOUR QUESTIONS ANSWERED. . .

A selection of smaller questions from readers…

CART COPY

What's the cheapest and easiest way to back up save files from cartridges?
Alex Harford via Twitter

Right now we use the Retrode 2, a USB cartridge reader which supports the SNES and Mega Drive natively, and a variety of other systems via plug-in cartridges. We've found that most games work fine, but that some games don't (particularly third-party ones) – we couldn't get the data from *NBA Jam Tournament Edition* or *Micro Machines 96*. The RetroN 5 can also apparently do this for the systems that it supports.

IMPORT FRIENDS

How do you get a PAL Dreamcast to play Japanese games?
Mike J Fitzgerald via Twitter

There are two good ways to do this, either with a mod or with a boot disc. The mod is a region-free replacement BIOS chip, which will enable you to play discs of any region with no extra fuss – just pop the disc into the tray as normal and go. Boot discs like DC-X are cheap and non-invasive, but you have to start the console with them each time you want to play an import game. They do also allow you to force VGA on some games, which is nice.

SKOOL DAZE

How do you ease your children into retro gaming?
Anthony Bull via Facebook

Durable cartridge-based systems are the best starters – the likes of the Master System, SNES and GBA. These offer simple games with timeless characters your child will recognise, including Disney games, *Pokémon* games and the likes of Sonic and Mario. After all, you don't want your child's friends asking, "What's Dizzy?" Nick finds that being single means that he won't acquire children, so he can just play games himself rather than worrying about what they're interested in, but you may feel this is rather too drastic.



» [Dreamcast] If you want to play imported Japanese games on a PAL Dreamcast, you have a couple of options open to you.

COLLECTOR'S CORNER

READERS TAKE US THROUGH **THE RETRO KEYHOLE**

DOOM DISKS

"These were the first *Doom* disks produced. They were printer verification copies that were sent to the guy who wrote the hint book. He put them on eBay, years pass and they go up again. I wasn't going to miss them."

PAID: €1,000

DOOM STUFF

"Too many *Doom* things to mention. Sometimes, I will find something as we are archiving, and I will think, 'How am I even holding this thing?'"

PAID: €0



DANGEROUS DAVE AND COPYRIGHT INFRINGEMENT DISK

"The original, and only one. Again, it's part of 'John's stuff', and is one of his very early games."

PAID: €0

BIO

NAME:
Brenda Romero

FAVOURITE GAME:
Doom, but I am obviously biased both by collection and marriage

FAVOURITE SYSTEM:
Apple II

TWITTER:
@br

INSTAGRAM:
@theromeromuseum

MAKING HISTORY

Games designer Brenda Romero on her unique collection of curios

We feel safe in declaring that while it's a long way from the largest we've featured, there hasn't quite been a collection quite like Brenda Romero's in these pages. In her unique position, as both a games designer of note herself, plus married to some chap who designed a fairly popular game that kickstarted an entire genre, Brenda's collection boasts items of such rarity that actually only one of them often exist. Much of it, in fact, is pure history, hence Brenda and John's efforts in opening a museum in their hometown of Galway. "We decided to open a museum focusing on game design," she explains, "as we were in a unique position to show the full design path of the first-person shooter, from concept to execution." Much of the material for the museum is what Brenda affectionately calls "stuff John kept". "And he kept everything. I noticed a few holes, though, and I set about trying to fill them."

While John hoarded multiple versions of *Doom* and his other games, he often didn't keep compilations or related items. "So I got those too," declares Brenda, "and then it was localised versions of the early games. Then it was games that the early games influenced. You can see what kind of fun disaster this has turned out to be!" Having spoken to many collectors, we know very well how these things work. With one particular collection completed, fresh branches always appear. "And I try to have two of everything so that I can have one open, and one sealed," reveals Brenda. The rarity of the items in the Romero collection make a valuation almost impossible, and Brenda admits she has no idea how much it is all worth. "Some of our stuff is one-of-a-kind – like the original disk that led to the founding of iD Software, the actual *Doom* bible. And the actual Apple II that the first three *Final Fantasy* games were made on. And all of Silas Warner's notes for *Castle Wolfenstein*. It is simultaneously valuable and worthless, since we won't get rid of it."

Work on Brenda and John's museum continues, as she fills in the blanks of the collection, before creating more blanks to fill. Their objective is to open the museum to the public in the autumn of 2019. "John's collection is primarily very early Seventies and Eighties Apple II games," says Brenda. "And the stuff I kept from my career fits very nicely into his collection." As a games designer herself, Brenda has also "kept things, as you do when you are a games designer", and when the pair were able to recently extract their collections from storage for the first time in ten years, the extent of their gatherings became clear. "As a games designer, I know that there is a powerful pull on players to complete something. I never expected that I would be the one playing what feels like an endless collection quest!"



APPLE II OWNED BY NASIR GEBELLI

"The phrase 'Programmed by Nasir Gebelli' is legendary among Eighties gamers. We have the machine that the legend coded on. Amazing."

PAID: £0 (given to Brenda by Nasir)

Got an impressive collection of your own? Contact us at:
RetroGamerUK @RetroGamer_Mag retrogamer@futurenet.com



WOLFENSTEIN 3D ZOOM EDITION SHAREWARE
"It took me forever to find this! It is sealed and in perfect condition. I traded some stuff for it."
PAID: €0

JEWEL IN THE CROWN

ORIGINAL SEALED EDITION OF DOOM

"This is the registered version of the original *Doom*, and simultaneously an ordinary but extraordinary jewel in the crown. It's a sealed 3.5-inch version in mint condition and is signed by Adrian Carmack."

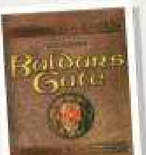
PAID: £0 (part of 'John's stuff'!)

BARGAIN HUNT

Your guide to the rising world of retro prices

THE COVER STAR PLAYSTATION

With the PlayStation Classic hitting stores, it seems like an appropriate time for us to revisit the legendary Sony console. Fortunately, despite the renewed popularity, prices of the original console remain relatively low, probably due to the backward compatibility of the PlayStation 2. Expect to pay between **£10 and £20** for a console and controllers, and **£30 to £50** for a decent bundle with games. The more compact PSone tends to command a premium, especially if it comes with the neat five-inch LCD screen – perfect for authentic retro gaming on the go.



BALDUR'S GATE

Despite shipping in one of those notoriously fragile big cardboard boxes, *Baldur's Gate* sold so many copies that there are still plenty out there. Expect to pay **as little as £10** for one in acceptable condition, with up to £25 for one in superior nick.



SPYRO THE DRAGON

Unlike the console itself, the prices of popular PlayStation games have ballooned the last few years. Prices vary, but with even the platinum version fetching **£10 to £15**, copies of the original *Spyro* can often sell for **over £20** – remarkable for such a common game.

NAMCO NEGCON

This unique controller is swiftly becoming collectable. Despite its obscurity it remains available at decent prices, with an unboxed neGcon generally achieving prices in the range of **£10 to £20**. If you like your PlayStation racing games, the neGcon is worth forking out a few quid for.



FANTASY WORLD DIZZY

Think you have a rare *Dizzy* game worth a ton? Alas, you're probably thinking of *Crystal Kingdom Dizzy*, and while *Fantasy World Dizzy* is a popular title, its single cassette version normally posts **£3 to £5** with the big box edition netting you **£10 to £20**.



HOW MUCH?! TRESPASSER

This unusual PC game endured a rushed development in an effort to tie it in with a deal with AMD. The jewel CD case and disc are relatively common and sell for anything between **£15 and £25**. However, if you're after the original big box, be prepared to dig deep. They don't appear very often, and when they do, they often achieve a price well over **£100**.

Prices correct at time of print

MAILBAG

HAVE YOUR SAY... SEND US A LETTER OR MAKE YOURSELF HEARD ON THE ONLINE FORUM – **WWW.RETROGAMER.NET**

WIN!

Every month, one lucky writer-in will receive a spanking copy of either our NES/Master System or SNES/Mega Drive books



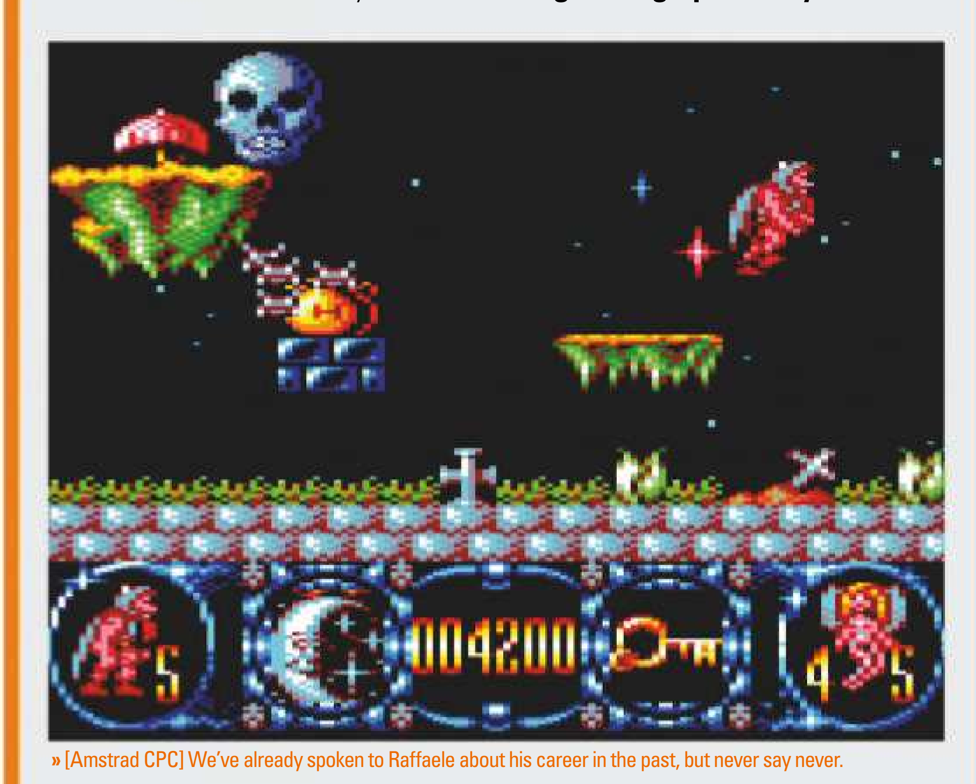
STAR LETTER

THE 8-BIT KING

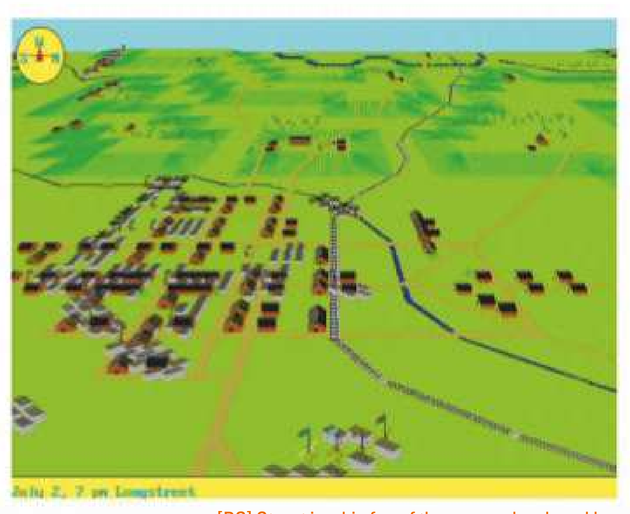
Dear **Retro Gamer**,
I just read the recent making of *Stormlord* in issue 186 and it made me remember just how great Raffaele Cecco was during the Eighties so thanks for that. I grew up with an Amstrad and every single game he released became an essential purchase for me. His games always looked fantastic on the CPC, with my personal faves being *Exolon*, *Cybernoid* and *Stormlord*. Needless to say I was delighted to read about *Stormlord* again and I'd love to see a bigger article on him. This is what I love about your magazine – it reignites fires I thought had long burned out.

Thanks for the memories,
James Baker

Glad you loved the feature James and thanks for the kind words, it's very nice of you. Have a retro book for brightening up our day.



» [Amstrad CPC] We've already spoken to Raffaele about his career in the past, but never say never.



» [PC] Stuart is a big fan of the games developed by Dr Peter Turcan. We'll try and track him down.

THE STRATEGY KING

I would love it if **Retro Gamer** ran a feature on the *Battlescapes* franchise of strategy games by Dr Peter Turcan from the late Eighties and Nineties.

I bought all the titles and spent many hours poring over the laminated maps supplied with the games to plan my next move. Although some people found inputting all the orders a chore, for me it was actually a blessing, for I was learning to touch-type at college when the games were released and they quickly helped me to become the top of my whole class!



» [Master System] We briefly covered *Wonder Boy In Monster Land* in issue 186.

My brother, a keen adventure game player but not a usually a fan of strategy titles, also played and it was good watching the troops change formation as they marched and fought their way across the 3D battlefield. I also enjoyed the feeling of not knowing what was going on over the horizon and awaiting the arrival of messenger riders with the latest news (often inaccurate or out of date!) from the front line.

Indeed, even today I strongly feel that *Turcan*'s software had arguably the best pre-radio communication system ever programmed into a game and still look back on the franchise with fond affection!
Stuart Hardy

Thanks for getting in touch with us, Stuart. We're not massively familiar with the series, but it certainly looks interesting. We'll do a little bit of digging and see if we can arrange an interview.

SHORT AND SWEET

Dear Darran,
Can you please do an in-depth article on *Wonder Boy In Monster Land* and *Black Belt* for the Sega Master System. The latter was an amazing scrolling fighter and one-on-one fighter at the time. It also has an interesting backstory.
Nick Moudios

If we can get access we'll certainly cover *Wonder Boy*, Nick. As for *Black Belt*, we've already got plans for that one. Look out for it in a future Lost In Translation.

THE GOOD OLD DAYS

Dear **Retro Gamer**
Paul Rose's (aka Mr Biffo) point about coming of age when computer games and middle age collide with each other has hit the nail on my head and could explain my reluctance not to be attached to the latest games. As Paul pointed out what's happening now is that games are just another mass entertainment medium along with movies, music and TV, throwing everything all at once at us rather than making something that's akin to getting excited as watching your first movie in the cinema. To cut a long story short, my reasons for agreeing is basically that I miss the effort that was made in making a game and its artwork from scratch.
Cisko Kidd

Thanks for getting in touch. A lot of it probably comes down to age if we're honest. When you're in your mid-forties like Darran is, it's hard to get excited about the latest

» [Xbox One] Games like *Red Dead Redemption 2* highlight just how much work goes into making them.

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game, because you've already seen it all. Having said that, we'll have to disagree about the effort that goes into making games today. The recent controversy surrounding *Red Dead Redemption II*'s development highlights just how much work goes into modern games.

COLLECTING QUESTIONS

Dear **Retro Gamer**,
I am an avid collector and subscriber to your magazine. I am interested to know how I would apply to be collector of the month, as it is a dream of mine to appear in your magazine.
Thank you,
Callum Stannard

We're doing our very best to feature your game collections in the magazine. If you do want to appear in the Collector's Corner it's worth bearing in mind that we need nice quality images, as ones that are typically suitable for use on websites don't translate well when used in print. Get in touch if you'd like to be featured.



» If you want to show off your collection like Callum, then we'd love to hear from you.

DERBY DEVOTION

Hi guys, the magazine is amazing. I really love Conversion Capers and Minority Report, as they make me want to go back in time. I started with a Spectrum, moved on to a Mega Drive and for some reason lost touch with gaming until my cousin showed me his new Xmas present, Sony's little grey box of delights in the Nineties. I was dumbstruck and spent ages playing *Destruction Derby* and my love of gaming came flowing back. Is there any chance of you guys doing a piece on *Destruction Derby*, as I will never forget what brought my love of gaming back.

Please keep up the superb work,
Kelvin Courtney

We're glad you love the magazine Kelvin. We actually covered the original *Destruction Derby* in issue 81 and the sequel in 163. Good luck tracking them down.

DISCUSSED THIS MONTH

games™ and GamesMaster

Some sad news arrived this month as we learned of the closure of both *games™* and *GamesMaster*. We'll miss leafing through both magazines, as well as sitting next door to the *games™* team in the Bournemouth office. Both magazines were brilliant, and everyone on RG will miss them dearly.





» [PlayStation] It's nice when we hear from readers how a certain game reinvigorated their love for their hobby.



Your say

Every month, **Retro Gamer** asks a question on the forum and prints the best replies. This month we wanted to know…

What's your favourite PlayStation game?

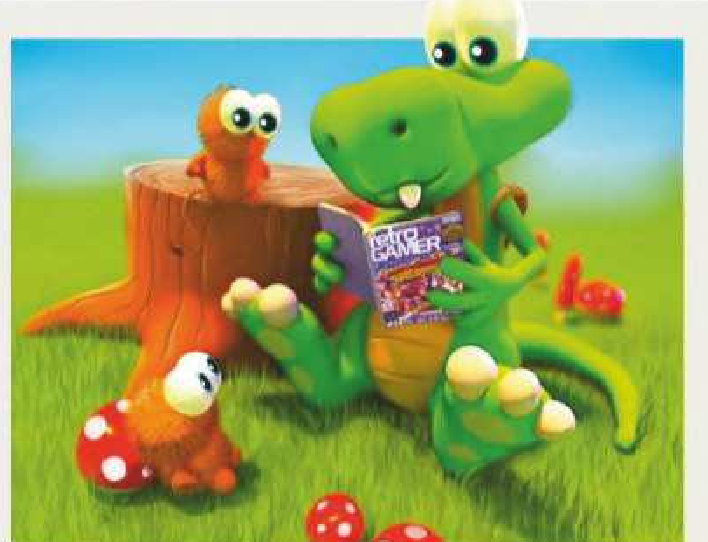
Rhydian James Davies
You never forget your first – *Ridge Racer*! It was the first time I truly felt the arcade was in my bedroom. Lacking in tracks, but I didn't care. I knew the times were a changing and I liked where they were going to take me.

Spencer Guest
Destruction Derby! The first game released on any console or computer that enabled you to smash your opponents, and reward you for it! The two-player link-up was great also. It's a shame the sequel was a bit overdone. Definitely an all-time classic!

Phil Ping
Metal Gear Solid. No game before it had that level of detail or storytelling. And the mechanics of the game were truly revolutionary (the stealth gameplay, the different tactics required for boss battles). The music and voice acting were pretty top notch as well.

Jay T Bossert
Tomb Raider. The manipulation of Lara, the puzzles and just a fresh take on the genre.

James Harvey
Gran Turismo. It was the first game I ever pre-ordered and read every paragraph of text written about it before release. It changed the game for the racing genre – visuals like we'd never seen, a literally unbelievable replay mode and ridiculous depth. NOTHING could compare.



» Sam's love for Croc is as passionate as Nick's for Sonic, or Drew's for denim jackets… or Darran's for promo codes.

Alexander Graham
Tekken 2, it was the first game I fell in love with and became obsessed with as a franchise. An improvement over the first in every way, and a roster that can't be beat.

Stephen Farrell
Vandal Hearts. A great tactical game that reminded me heavily of *Shining Force* on the Mega Drive.

Great art style and music, multiple paths for character progression (so multiple playthroughs) and a decent story. Plenty of secrets, too. Brilliant game.

@SamRibbits91
I'd have to go with the Playstation's best 3D platformer. *Croc: Legend Of The Gobbos* of course! I can only assume a remake is on the way.

retro GAMER

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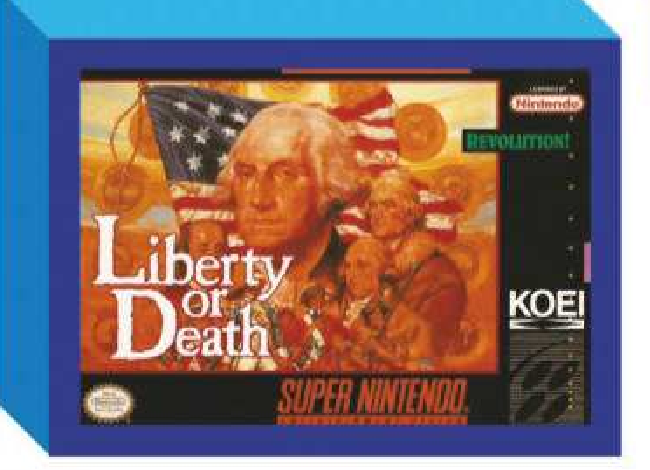


Everything you need to know about Tecmo's brutal beat-'em-up

ALSO INSIDE…

Sonic Adventure, The Bluffer's Guide To Detective Games, Jaguar, Space Station Silicon Valley, Jungle Strike, Peter McConnell

ENDGAME



LIBERTY OR DEATH

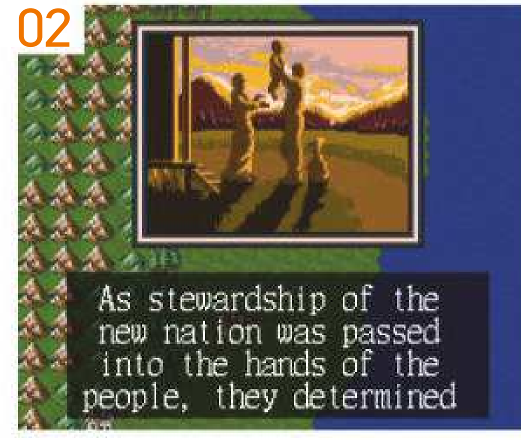
» Around a quarter of a millennium ago, a humble North American colony got into a bit of a tax dispute with the home base. The result was a full rebellion, which you get to play out in this strategy game, leading the Americans to victory against those darned… who were the antagonists again? Drat, we seem to have forgotten. Our memory is slipping with age

01



» Oh yes, it was the British. That would be us, then. If there's one lesson we should probably have learnt from this, it's to keep our beaks out of American political affairs. Sometimes we just can't help ourselves, though, you know?

02



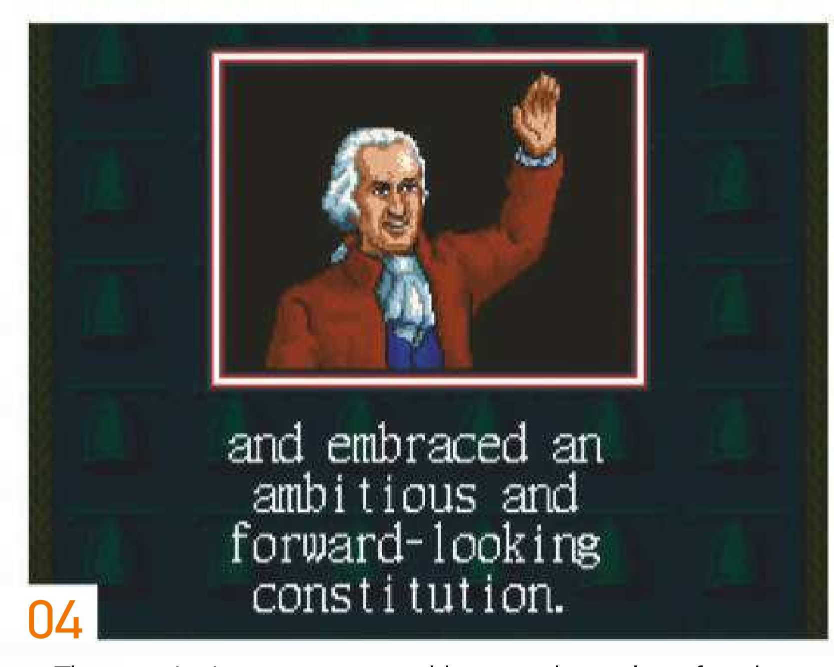
» A good, wholesome American family celebrates its hard-won freedom. The dog was actually a fearsome tracker, sniffing out hidden redcoats, and was awarded a medal. The baby, being useless as babies tend to be, didn't assist in the war effort.

03



» Revolutionary leader George Washington becomes the first president of the USA, despite his reluctance to accept the post, and leads a unified nation with skill. He is later considered amongst the greatest of American presidents.

04



» The constitution can cause problems and wasn't perfect the first time round, but, hey, that's what amendments are for, right? It's certainly better than having an uncodified constitution. A country without proper rules of government would descend into chaos quicker than you can say – oh wait, that's Britain again.

05



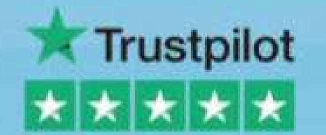
» So let's hear it for America, a country in which liberty and justice are the birthright of all citizens. And hey, Britain was a reformed nation for the experience, never again colonising far-off lands and wreaking havoc upon the local… hang on, that's not right, either. Sorry about that, Commonwealth nations.



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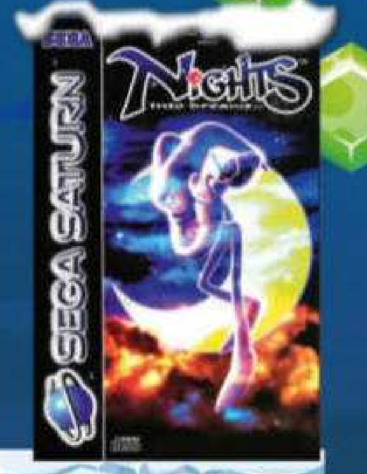


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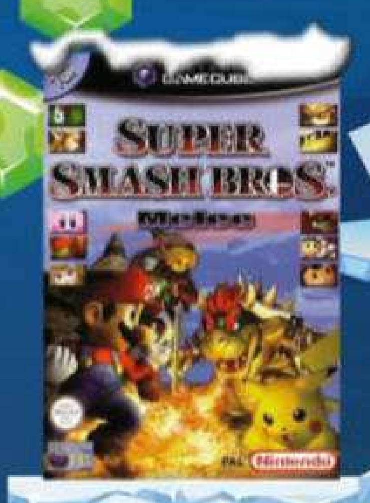
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